

REPORT

OF THE

DIRECTOR OF THE CENSUS.

DEPARTMENT OF COMMERCE,
BUREAU OF THE CENSUS,
Washington, October 1, 1917.

SIR: There is submitted herewith the following report upon the organization of the Bureau of the Census, its operations during the fiscal year ended June 30, 1917, and the work now in progress:

ORGANIZATION AND SCOPE OF WORK.

Since my last report the organization of the Census Bureau has been changed by the creation of a new division, the division of cotton and tobacco statistics (provided for by the act of May 10, 1916); by the reestablishment of the division of agriculture, which went temporarily out of existence at the close of the Thirteenth Census period; and by the appointment of an additional chief statistician (authorized by the legislative, executive, and judicial appropriation act approved March 3, 1917) to have general authority and supervision over the work of these two divisions.

DUTIES OF DIVISIONS.

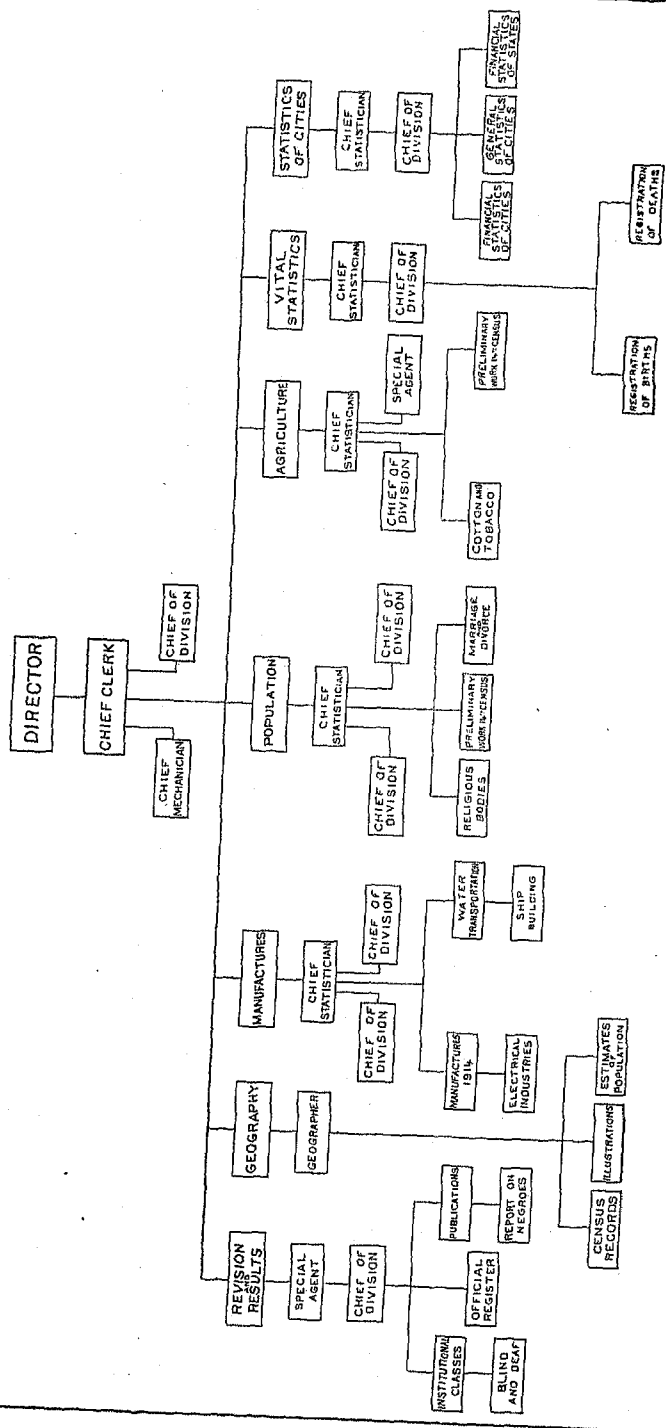
The diagram on page 6 shows graphically the present organization of the Bureau. The work of the several divisions may be briefly stated as follows:

Administrative division.—General supervision of personnel, including appointments, promotions, transfers, etc.; handling of general correspondence; distribution of publications; preparation of press summaries; other work not belonging especially to any other single division.

Population division.—Collection, compilation, and preparation for publication of decennial statistics relating to population (including occupations) and religious bodies and of special statistics pertaining to marriage and divorce.

Division of manufactures.—Collection, compilation, and preparation for publication of quinquennial statistics pertaining to manufactures and to electrical industries (electric light and power plants, street and electric railways, telegraphs and telephones, and electric fire-alarm and police-patrol signaling systems); and of decennial statistics of mines, quarries, and oil and gas wells, of water transportation, and of fisheries (in cooperation with the Bureau of Fisheries).

ORGANIZATION BUREAU OF THE CENSUS



Division of vital statistics.—Collection, compilation, and preparation for publication of annual statistics of births and deaths in States and cities having adequate registration systems, and preparation of special reports presenting particular phases of vital statistics, such as "Life Tables" and "Mortality from Cancer."

Division of statistics of cities.—Collection, compilation, and preparation for publication of annual financial and general statistics of cities having more than 30,000 inhabitants; of annual financial statistics of States; and of decennial statistics of wealth, public indebtedness, and taxation.

Division of agriculture.—Collection, compilation, and preparation for publication of decennial statistics relating to agriculture.

Division of cotton and tobacco statistics.—Collection, compilation, and preparation for publication of statistics relating to cotton ginned to specified dates; monthly statistics of cotton consumed, imported, exported, and on hand, and of active cotton spindles; monthly statistics pertaining to cotton seed and its products; quarterly statistics relating to cotton fiber consumed in the manufacture of explosives; quarterly statistics of raw cotton consumed in the manufacture of absorbent and medicated cotton; annual statistics of cotton production and distribution; quarterly statistics of leaf tobacco held by manufacturers and dealers; and preparation of an annual bulletin giving statistics of leaf tobacco held at the beginning of each quarter, together with statistics as to acreage, production, imports, exports, consumption, etc.

Division of revision and results.—Compilation and preparation for publication of the following: Statistics of special classes—such as Negroes, deaf and dumb, blind, paupers, inmates of benevolent institutions, insane and idiotic, and prisoners and juvenile delinquents—from data gathered at decennial censuses; Official Register of the United States (issued biennially); and statistics relating to Federal employees; and performance of miscellaneous work in connection with the printing of all census publications.

Geographer's division.—Maintenance of records as to boundaries of supervisors' and enumerators' districts and creation of new districts where needed; maintenance of records as to changes in boundaries of counties, precincts, and municipalities; decennial preparation of Statistical Atlas of the United States; preparation of maps, charts, and diagrams illustrating statistics in census publications; searching of old census records for information in regard to ages and other data concerning individuals; and preparation of population estimates between census years.

OUTLINE OF WORK DONE DURING A DECADE.

The work of the Census Bureau is laid out in 10-year cycles and comprises inquiries made at intervals varying in length from 2 weeks to 10 years. The following is an outline of the various lines of work carried on during a decade:

The decennial census.—The taking of the decennial census, which covers the subjects of population, agriculture, manufactures, and mines and quarries (including oil and gas wells), is the chief function of the Bureau. The reports relating to these subjects present the statistics in great detail and are issued not only in the form of large

bound volumes but also as numerous paper-bound bulletins, each of which relates to a particular State of the Union or to a particular phase of an inquiry, such, for example, as some one manufacturing industry. During the taking of a decennial census the Bureau's field force comprises from 70,000 to 80,000 supervisors, enumerators, and special agents; and during the compilation of the data obtained its office force numbers, at times, from 3,500 to 4,000.

Other decennial inquiries.—Under authority contained in the act of Congress establishing the permanent Census Bureau (approved March 6, 1902), and in various acts amendatory thereof or supplementary thereto, the Census Bureau makes decennial investigations in regard to dependent, defective, and delinquent classes; wealth, public indebtedness, and taxation; religious bodies; transportation by water; and fisheries (in cooperation with the Bureau of Fisheries).

The decennial investigations relating to dependent, defective, and delinquent classes—inmates of benevolent institutions, the blind, the deaf, insane and feeble-minded in institutions, paupers in almshouses, and prisoners and juvenile delinquents—are made for the years in which the decennial censuses of population, agriculture, etc., are taken, and a part of the data are collected by the census enumerators, the remainder being obtained by correspondence. The reports, however, are not included in those of the decennial census but are issued after the close of the census period, which terminates on June 30 of the second year following that in which the census is taken. The last census of wealth, public indebtedness, and taxation related to the years 1912 and 1913; the current inquiries in regard to religious bodies and transportation by water relate to the year 1916; and the last census of fisheries covered the year 1908.

Quinquennial inquiries.—These comprise the censuses of manufactures and electrical industries. The manufactures inquiry forms a part of each decennial census, and in addition a similar inquiry is made in the fifth year following that in which the decennial census is taken. The current investigation relating to electrical industries covers the calendar year 1917.

Biennial preparation of Official Register of the United States.—Once in two years the Census Bureau compiles the Official Register of the United States. The edition for July 1, 1917, is now in course of preparation.

Annual inquiries.—The annual inquiries conducted by the Bureau of the Census cover births, deaths, finances of cities having over 30,000 inhabitants, "general" statistics of such cities, and finances of States.

Quarterly tobacco statistics.—At quarterly intervals (Jan. 1, Apr. 1, July 1, and Oct. 1) the Census Bureau issues, in post-card form, statistics as to stocks of leaf tobacco in the hands of manufacturers and dealers.

Quarterly, monthly, and semimonthly cotton and cottonseed statistics.—At quarterly intervals the Census Bureau issues, in the form of multi-graphed or mimeographed sheets, two series of reports, one relating to the consumption of cotton fiber in the manufacture of explosives and the other to the manufacture of absorbent and medicated cotton. At monthly intervals are published two series of post-card reports, one relating to cotton consumption, stocks, and spindles, and the other to cotton seed and its products. At slightly irregular intervals,

averaging about two weeks in length, are issued post-card reports showing the amounts of cotton ginned to specified dates, a total of 10 such reports being published during each ginning season. In addition, an annual bulletin on cotton production and distribution is published.

Special and miscellaneous inquiries.—Besides making the various inquiries specifically authorized by law, as enumerated above, the Bureau of the Census makes such special and miscellaneous inquiries as may be ordered by Congress, the President, or the Secretary of Commerce. In this category are included an investigation relating to marriage and divorce, made in 1907 and covering the 20-year period 1887–1906; a similar investigation, covering the calendar year 1916, now being made; and a special inquiry relating to the cost of city cartage.

OFFICE FORCE.

The following table shows the total statutory force of the Census Bureau and the number of clerical positions in each salary class, by fiscal years, beginning with the close of the last decennial census period:

Fiscal year.	Total force. ^a	Clerks, \$1,800.	Clerks, \$1,600.	Clerks, \$1,400.	Clerks, \$1,200.	Clerks, \$1,000.	Clerks \$900.
1912-13.....	610	11	20	32	300	83	87
1913-14.....	621	11	20	39	305	83	86
1914-15.....	589	11	20	38	303	83	85
1915-16.....	569	11	20	37	300	83	82
1916-17.....	562	15	25	40	283	83	81
1917-18.....	563	15	25	40	283	83	81

^a Includes official and subclerical positions.

The increase of one for the present fiscal year as compared with the preceding one is accounted for by the creation of a new position of chief statistician.

The following statement shows the office and field employees on September 30, 1917:

OFFICIALS.

Director.....	SAM. L. ROGERS.
Chief clerk.....	THOMAS J. FITZGERALD.
Chief statisticians:	
Population.....	WILLIAM C. HUNT.
Statistics of cities.....	SPARKE M. GROGAN.
Manufactures.....	EUGENE F. HARTLEY.
Vital statistics.....	WILLIAM H. DAVIS.
Agriculture, cotton and tobacco.....	WILLIAM L. AUSTIN.
Expert special agent in charge of revision and results.....	JOSEPH A. HILL.
Geographer.....	CHARLES S. SLOANE.
Expert chiefs of divisions:	
Administrative.....	TIMOTHY F. MURPHY.
Population.....	WILLIAM H. JARVIS.
Statistics of cities.....	EDWARD W. KOCH.
Manufactures.....	LEMUEL A. CARRUTHERS.
Vital statistics.....	FRANK L. SANFORD.
Cotton and tobacco.....	JOHN F. DALY.
Revision and results.....	RICHARD C. LAPPIN.
Chief, mechanical laboratory.....	HARVEY J. ZIMMERMAN.
	HARRY H. PIERCE.
	E. M. LABOITEAUX.

CLERICAL FORCE.

Stenographer, \$1,500.....	1	Clerks—Continued.	
Clerks:		\$1,000.....	83
Class 4.....	15	\$900.....	81
Class 3.....	25	Total.....	523
Class 2.....	40		
Class 1.....	283		

SUBCLERICAL FORCE.

Skilled laborers:		Assistant messengers, \$720.....	5
\$900.....	2	Messenger boys, \$480.....	8
\$720.....	1	Total.....	13
Unskilled laborers, \$720.....	4		
Messengers, \$940.....	3		

MECHANICAL LABORATORY FORCE.

Expert, \$2,000.....	1	Toolmaker, \$1,400.....	1
Expert, \$1,800.....	1	Tabulating mechanicians, \$1,200.....	4
Expert, \$1,800 (electrical).....	1	Pressman and machinist, \$1,200.....	1
Expert, \$1,600 (mechanical).....	1	General mechanic, \$1,000.....	1
Mechanician, \$1,000.....	1	Apprentice, \$900 (temporary).....	1
Mechanician, \$1,400.....	1	Total.....	15
Electrician, \$1,400.....	1		

SPECIAL AGENT FORCE.

Expert special agents for general field work, etc.....	21
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SUMMARY.

Officials.....	19	Mechanical-laboratory force.....	15
Clerical force.....	528	Special agents.....	21
Subclerical force.....	18	Total.....	601

In addition, there are employed throughout the cotton belt 767 local special agents to collect statistics of cotton. These agents perform their work only at intervals and are paid on a piece-price basis.

LOSSES DUE TO LOW SALARY SCALE.

As explained in my last report, the Census Bureau labors under a great handicap by reason of its low average salary scale, which is causing many members of its force, including some of the most capable ones, to leave for more lucrative employment elsewhere, both in and outside the Government service. The extent of this handicap will be more readily understood and its seriousness will be more thoroughly appreciated when it is stated that out of the 563 official, clerical, and subclerical positions on the statutory roll of the Bureau only 98, or 17.4 per cent, pay salaries in excess of \$1,200 per annum, whereas in the other bureaus of the Department, considered as a whole, 39.9 per cent of the positions pay salaries higher than that figure. Furthermore, in 1912 (the latest year for which data are available) 36.1 per cent of the positions in all the executive departments combined, exclusive of those in the Bureau of the Census, carried rates of compensation greater than \$1,200 per annum. That is to say, the proportion of the Census force which receives more than \$1,200 per annum is less than half as great as the corresponding proportion for the remainder of the Department of Commerce and is also less than half as great as was the corresponding proportion in the remaining bureaus of all the departments combined five years ago.

The natural and inevitable result of this state of affairs appears in the fact that during the period from July 1, 1916, to September 30, 1917, the Census Bureau lost no fewer than 89 officials and employees, or nearly 16 per cent of its entire statutory force, including some of the most highly trained and valuable officers of the Bureau, whose services could ill be spared. The following cases are cited to illustrate the difference between the salaries received from the Census Bureau by some of the members of its force who have left since July 1, 1916, and the salaries they are now receiving:

In Bureau of Census.		Salary in present position.	In Bureau of Census.		Salary in present position.
Position.	Salary.		Position.	Salary.	
1 chief statistician.....	\$3,000	\$4,500	2 clerks.....	\$1,000	\$1,200
1 chief of division.....	2,000	4,000	6 clerks.....	900	{ 1,600 (1)
1 clerk.....	1,800	3,000	1 skilled laborer.....	900	{ 1,200 (5)
2 clerks.....	1,400	1,600			1,800
4 clerks.....	1,200	{ 2,000 (1)			
		{ 1,600 (1)			
		{ 1,400 (2)			

It will be noted that one of the officials who left the Bureau is now drawing double the salary paid him here, and that the other official and a number of the clerks who left are receiving greatly increased compensation.

In its estimates of appropriations for the fiscal year 1915 the Census Bureau asked for a reclassification of its force, but no action was taken upon its request.

For the fiscal year 1917 Congress, at the request of the Bureau, provided for 13 new positions above \$1,200 and made a corresponding reduction in the number at that salary. This change, however, gave the Bureau only slight relief, since the number of \$1,200 positions on its roll still remained inordinately large and the number of places above \$1,200 inordinately small in proportion to the total.

The estimates for the current year called for an increase of 33 in the number of places with salaries above \$1,200, with a corresponding reduction in the number at that salary, the total number of positions being left the same. This would have necessitated an increase of only \$9,600, or less than 1½ per cent, in the total appropriation for salaries, but would have made possible a considerable number of well-deserved promotions and would thus have brought about a marked improvement in the morale of the Census Bureau's force. This increase, however, was not granted, and as a result the Bureau lost during the year a large number of its well-trained employees.

It is my duty to the Census Bureau and to the public to point out, in the most emphatic manner possible, that unless an immediate and pronounced improvement is effected the Census Bureau will be unable to maintain the standard of excellence which it has set for its publications; it will be unable to issue them as promptly as it is now doing; and, most important of all, it will be extremely difficult for it to make proper preparations for the Fourteenth Census.

NEED OF LARGER FORCE.

Not only is the Bureau thus handicapped by its exceedingly low salary scale, but it suffers by reason of the inadequate size of its statutory force, which now numbers 563, whereas 10 years ago it was 636, or 73 more than the present number. A portion of this reduction (39 employees) was due to the removal of the Census Bureau to the Commerce Building and the resultant consolidation of a part of its force with that of the Department; but, making allowance for this consolidation, the Bureau is now operating with 34 fewer employees than it had 10 years ago. Its work, however, is materially greater at present than it was at that time, to some extent by reason of the addition, in 1912, of the semiannual (now quarterly) tobacco inquiry to the investigations regularly carried on by the Bureau, but more especially because of the general increase in the work along all lines, due in part to the growth of the country during the past decade and in part to the amplification and extension of certain inquiries, such as those relating to births, to mortality, to cotton and cotton seed, and to cities and States.

The increase in the vital-statistics work is worthy of particular mention. This work is rapidly becoming greater from year to year, not merely by reason of the increase in the population of the country but also because of the extension of the "registration areas" for births and deaths. The collection of birth statistics by the Census Bureau was begun only a few years ago, but already the birth-registration area comprises 13 States and the District of Columbia and contains considerably more than a third of the total population of the country. The death statistics, which 10 years ago related to less than one-half of the population of the United States, now pertain to approximately 70 per cent. As a result of the growth of this branch of the work, it has become necessary during a portion of each year to employ a number of temporary machine operators in the division of vital statistics. Some of these operators have been former employees of the Census Bureau, and the remainder have been obtained, so far as possible, from the registers of the Civil Service Commission.

A further need for the enlargement of the Bureau's force is found in the fact that during the coming fiscal year—whose termination marks the beginning of the Fourteenth Census period (July 1, 1919)—it will be absolutely necessary, if that census is to be taken properly, to do a great deal of preparatory work for it.

As pointed out at the beginning of this report, under the head "Organization and scope of work," the division of agriculture, which went temporarily out of existence at the close of the Thirteenth Census period, has recently been reestablished. The force of this division, however, at present comprises only one official and six employees. A great deal of work must be done in preparation for the Fourteenth Census, and all comparative tables (that is, tables presenting Fourteenth Census statistics side by side with corresponding figures for preceding censuses) to be printed in the reports should be prepared, so far as figures for the Thirteenth and preceding censuses are concerned, before the beginning of the Fourteenth Census period, or at least before the enumeration is made. This can not

be done, however, unless a very much larger force is provided for the division.

The work of preparing for the decennial census of mines, quarries, and oil and gas wells will also be considerable and should be commenced at the beginning of the next fiscal year.

The geographer's division, the duties of which will include the establishment of several hundred supervisors' districts and approximately 75,000 enumerators' districts, in preparation for the Fourteenth Census, must begin this work early in the coming fiscal year and will, therefore, need an increase in its force.

The divisions of population and manufactures will also need more clerks for preliminary Fourteenth Census work, although, by reason of the fact that these divisions have been in continuous existence since the Thirteenth Census, their needs in this respect will not be so great as those of the division of agriculture.

In making its estimates of appropriations for the coming fiscal year, therefore, the Census Bureau will ask for an increase of 79 in its statutory force; and in order to make its salary scale more nearly comparable with the salary scales prevailing elsewhere in the Government service, the majority of the increases requested are in the classes above \$1,200.

The present and proposed classifications are shown below.

Grade.	Office force, 1918.			Estimates, 1919.		
	Num-ber.	Salary.	Amount.	Num-ber.	Salary.	Amount.
Director.....	1	\$6,000	\$6,000	1	\$6,000	\$6,000
Chief statisticians.....	5	3,000	15,000	5	3,000	15,000
Statistical and technical expert.....	1			1	3,000	3,000
Chief clerk.....	1	2,500	2,500	1	2,500	2,500
Geographer.....	1	2,000	2,000	1	2,000	2,000
Stenographer.....	1	1,500	1,500	1	1,500	1,500
Expert chiefs of division.....	9	2,000	18,000	9	2,000	18,000
Clerks:						
Class 4.....	15	1,800	27,000	23	1,800	41,400
Class 3.....	25	1,600	40,000	35	1,600	56,000
Class 2.....	40	1,400	56,000	110	1,400	154,000
Class 1.....	283	1,200	339,600	250	1,200	300,000
\$1,000.....	83	1,000	83,000	93	1,000	93,000
\$900.....	81	900	72,900	91	900	81,900
Skilled laborers:						
\$900.....	2	900	1,800	3	900	2,700
\$720.....	1	720	720	1	720	720
Messengers.....	3	840	2,520	3	840	2,520
Assistant messengers.....	5	720	3,600	5	720	3,600
Unskilled laborers.....	4	720	2,880	5	720	3,600
Messenger boys.....	3	480	1,440	4	480	1,920
Total.....	563		676,460	642		789,360

Under the proposed classification, as set forth in the above table, 29.1 per cent of the Census Bureau's force will be paid salaries higher than \$1,200 per annum. Even this percentage, although considerably greater than the corresponding one for the present year (17.4), is still materially below that for the other branches of the departmental service, taken as a whole. (See subsection headed "Losses due to low salary scale.")

The increase requested is needed in part to provide for the growth in the Bureau's current work and in part to provide for the preliminary Fourteenth Census work. Even the entire amount of the

increase—\$112,900, as compared with the current appropriation for salaries—is very small, indeed, in comparison with the cost of taking a decennial census, and the authorization of its expenditure will make possible the saving of a much greater amount in the cost of the Fourteenth Census work and will result in expediting the publication of the Fourteenth Census reports.

The importance of making suitable provision for beginning preparatory work in time and for carrying it on with proper thoroughness and speed can not be too strongly emphasized. This matter is further discussed in the section entitled "Plans for future work."

PROMOTION OF MESSENGER BOYS.

The statutory roll of the Census Bureau for a number of years has provided three messenger-boy positions. Since December 1, 1915, five messenger boys have left to obtain elsewhere the increased pay which the Bureau was prevented from giving them by section 6 of civil-service Rule XI. This provision of the civil-service rules is as follows:

Messenger boys appointed without regard to the apportionment shall not be promoted or transferred to apportioned positions whether they are residents of States or Territories which are entitled to appointments to apportioned positions or not.

Of these five employees, three had served between three and four years; one, a little over one year; and one, about nine months. Some were boys of unusual intelligence and capability whose merits the Bureau would have been glad to reward if it had been possible to do so; but vacancies occurring in the grade of assistant messenger and messenger, unless filled by transfer, must, under the civil-service rules, be filled, through certification from the registers of the Civil Service Commission, by appointment of men who, as a rule, are not as efficient as the messenger boys whose promotions are precluded.

Under existing conditions, therefore, it is necessary for the Census Bureau to take boys from 16 to 18 years of age, to pay them \$480 per annum, to give them a certain training in its work, and then after a few years to lose them. In any business office an intelligent and industrious boy has an opportunity to advance, but, to a considerable extent, such opportunity is denied him in the Government service by the provision of the civil-service rules above quoted. This is unfair both to the boys themselves and to the offices in which they are employed.

SUPERANNUATION.

On July 19, 1917, I was asked to appear before the Senate Committee on Civil Service and Retrenchment, but as the House Committee on Appropriations requested my presence at the same time I was unable to do so. However, the chief clerk of the Bureau, whom I designated to represent me before the former committee, appeared and urged the enactment of an equitable system of retirement legislation, in which both male and female employees would participate on the same basis. He submitted the following table, relating to July 1, 1917, in which are shown the officials and employees of the Bureau, by age groups, for the information of the committee:

Grade.	Under 35.		35 to 50.		50 to 60.		60 to 65.		65 to 70.		70 and over.		Total.		Grand total.
	Men.	Women.	Men.	Women.	Men.	Women.	Men.	Women.	Men.	Women.	Men.	Women.	Men.	Women.	
Officials.....	84	24	7	144	5	63	3	10	2	1	16	268	246	16	514
Clerks, \$900-\$1,800, inclusive.....	7	6	2	10	2	15	6	10	2	2	16	14	10	14	10
Subclerical.....	3	10	10	144	60	70	18	6	10	2	15	314	246	14	560
Machine shop.....	94	24	117	144	60	70	18	6	10	2	15	314	246	14	560
Total.....	94	24	117	144	60	70	18	6	10	2	15	314	246	14	560

SUMMARY.

Age.	Number.	Per cent of total force.	Age.	Number.	Per cent of total force.
Under 35.....	118	21	65-70.....	12	2
35-50.....	261	47	70 and over.....	15	3
50-60.....	130	23	Total.....	560	100
60-65.....	24	4			

^a On July 1, 1917, there were three vacancies in the statutory force of the Bureau.

There is no serious loss of efficiency in the Bureau at this time due to superannuation, since at present only 27 employees, or 5 per cent of the force, are over 65 years of age. This is because of the fact that when the Bureau was organized on a permanent basis in 1902 an age limit of 45 years was fixed for appointment, except in the cases of Civil War and Spanish War veterans. The situation has also been improved somewhat during the past two years by confining permanent appointments to persons not over 35 years of age.

It will be noted from the foregoing table, however, that 181 employees, or 32 per cent of the force, are over 50 years of age, so that continued failure to enact retirement legislation will result in the Census Bureau having within the next 10 or 15 years a large number of employees whose efficiency will be impaired because of advanced age. It is hoped that Congress will provide a retirement system before the Bureau's force reaches this condition.

WORK DONE DURING FISCAL YEAR AND SINCE ITS CLOSE.

During the fiscal year the Bureau of the Census completed the compilation and publication of the primary or fundamental statistics derived from its latest canvass of manufacturing industries, carried on the compilation of more detailed statistics for later publication, and issued the Abstract of the Census of Manufactures and numerous final reports, in bulletin form, for separate States and for separate industries; conducted its regular annual inquiries relating to births, deaths, States, and municipalities; published a report on the blind and brought well toward completion the preparation of reports on the deaf, on Negroes, and on prisoners and juvenile delinquents; published special reports on mortality from cancer and on the cost of city cartage; made quarterly collections and publications of statistics relating to stocks of leaf tobacco; made monthly and semimonthly collections and publications of statistics relating to cotton and to cotton seed and its products;

performed considerable work for the Treasury and War Departments and the United States Shipping Board in connection with the preparations for war; complied with many requests for information contained in its records; and began work on its decennial canvasses of religious bodies and water transportation, its quinquennial canvass of electrical industries, and its special canvass of marriages and divorces.

Since the close of the fiscal year the Bureau has issued a considerable number of State and industry reports of the last census of manufactures, in bulletin form, and has carried on the compilation of others; and has been engaged in the compilation of the 1917 edition of the Official Register of the United States, in the conduct of the usual annual, quarterly, and monthly inquiries, and in preparatory work for the forthcoming census of electrical industries.

The work done along the various lines above specified is described in the sections headed "Current and completed work on statutory inquiries" and "Special and miscellaneous lines of work," which follow.

CURRENT AND COMPLETED WORK ON STATUTORY INQUIRIES.

CENSUS OF MANUFACTURES.

The last quinquennial census of manufactures, which covered the calendar year 1914, was taken during the following year. In order to facilitate the work and permit the publication of the statistics at the earliest possible date, many changes and improvements were made in the methods employed, with the result that not only was the canvass brought to completion more expeditiously than at preceding censuses, but the primary or fundamental figures derived therefrom were made public, in the form of press summaries, more promptly than heretofore. The work of compiling and publishing these press summaries, or preliminary statements, began in June, 1915, and was completed in August, 1916. The summaries gave, for States and for cities having 10,000 or more inhabitants, statistics as to number of establishments; proprietors, officials, and employees; horsepower; capital; salaries and wages; cost of materials; value of products; and other items. They also gave similar statistics for 37 industries and special statistics as to materials and products for 63 industries. In all, 852 of these press summaries were issued for the 1914 census of manufactures. The summary giving the statistics relating to all manufacturing industries combined, for the entire United States, was sent to the printer on July 24, 1916—an earlier date, relatively to the period covered by the inquiry, than that on which the comparable figures for any preceding similar census had gone to press.

Tables were prepared and published in pamphlet form covering four census years and giving comparative statistics of manufactures for the United States by geographic divisions, States, and industries. There was so great a demand for these figures that statements for some of the principal industries were issued in multigraphed form in advance of the publication of the pamphlet.

The preliminary figures having thus been published, the clerical force of the Bureau was concentrated, so far as possible, upon the

preparation of the analytical tables and text for the final reports. These are being published first in bulletin form, a separate quarto bulletin being issued for each State and the District of Columbia and for 41 selected industries. These bulletins will later be bound together in three large quarto volumes. Of the 49 bulletins for the States and the District of Columbia, 33 have been published and the remaining 16 are in the hands of the printer; and of the 41 industry bulletins, 13 have been published, 24 are in proof, and copy for 3 more is now in the hands of the printer. In the case of the remaining industry, shipbuilding, the 1914 statistics will not be published separately but will be issued together with those for 1916, which are now being compiled in connection with the census of transportation by water. (See subsection headed "Census of shipbuilding.") The work of preparing the State bulletins for publication in the form of two bound volumes is now in progress, and analytical tables are being compiled for the report on industries, to be published in a similar volume.

The Abstract of the Census of Manufactures was completed and published during the fiscal year. This is an octavo volume of 722 pages presenting in condensed and convenient form the more important statistics derived from the census of 1914. It contains 223 tables with descriptive text giving brief comments on the statistics. This abstract is, in some respects, a new departure in census work and has proved to be a popular publication. It differs from the abstracts of the decennial censuses of 1890 and 1900 in that it contains analytical tables, comparative figures for earlier years, and text discussions; it differs from the abstract of the decennial census of 1910 in that it presents the statistics in considerably greater detail, and at the same time is of octavo instead of quarto size and, therefore, more convenient for handling; and it differs from all former abstracts in that it contains statistics of manufactures only. Since the abstract will supply the needs of a great majority of those using the statistics of manufactures, it was the first volume of the final reports to be issued. There has already been a great demand from manufacturers and others for this publication. It is not for free distribution, but may be purchased from the Superintendent of Documents, Government Printing Office, at 65 cents a copy.

TRANSPORTATION BY WATER: 1916.

The act creating the permanent Census Bureau authorized the Director of the Census to make an inquiry relating to water transportation at decennial intervals. The first inquiry conducted under this authority was made for 1906, and the current one relates to the calendar year 1916. The report will give detailed statistics as to number, tonnage, value, ownership, employees, wages, amount of business done, etc., for the various classes of craft.

At the request of the Secretary, all collectors of customs furnished the Bureau of the Census with lists of undocumented craft. Arrangements were made with the Postmaster General whereby postmasters in cities and towns situated on the coast and inland waters were permitted to assist the Bureau by the preparation of similar lists. A circular from the Postmaster General was prepared and

sent to approximately 7,000 postmasters, and reports were received from practically all of them. The Director of the Census and the chief statistician for manufactures attended a meeting of the American Steamship Association on July 18, 1916, and were successful in securing the cooperation of the association in taking this census. Arrangements were made with the Bureau of Foreign and Domestic Commerce under which the Bureau of the Census was permitted to compile, from the records of the former bureau, statistics in regard to shipments of freight from and to the principal ports on the Great Lakes. This made it unnecessary to call on shippers for census reports of the quantities of freight carried on the Great Lakes, which in a measure would have duplicated the manifests they were required to make to the Bureau of Foreign and Domestic Commerce.

By cooperation in these various ways it has been possible to facilitate greatly the work on this inquiry and to keep down its expense.

Index cards containing names and addresses of all vessels to be covered by the water-transportation census were prepared, and the schedules to be used were drafted and printed. Since at the census of 1906 it was found very difficult to obtain reports on the detailed schedule for some of the small craft, especially canal boats and other unrigged craft, and since it was the intention to collect reports by correspondence so far as possible, a card schedule was formulated for use in securing returns for the craft for which no book accounts were kept. In taking this census, therefore, four schedules have been used, as follows: For steam and other machinery-propelled vessels; for sail vessels; for unrigged craft; and the card schedule, used interchangeably for any class of craft. In the case of each owner or operator who reported at the census of 1906 a copy of his report for that year was made on the proper schedule and mailed to him with the request that he supply a similar report for the census of 1916.

The effort to collect a large proportion of the data by mail, and in some cases by telegraph, was successful, and over 70 per cent of the index cards were thus disposed of before the field force left the office. Although this method necessitated the preparation of a large number of blanks, including schedules, form letters, and post cards, and involved a great amount of correspondence, it materially reduced the expense of the field work and facilitated the completion of the census.

The field force was organized, and the entire country laid out in eight districts, as follows: Atlantic coast; Gulf of Mexico; Pacific coast; Mississippi River and its tributaries; Great Lakes; canals; inland waters other than canals; and Alaska, Porto Rico, and Hawaii. The field work, which was begun in March, is now practically completed.

The examination and editing of the schedules is progressing in a satisfactory manner, the tabulation has been begun, and it is hoped to make public the report at a relatively earlier date than that at which the report of the census of 1906 was published.

Statistics relating to the operations of fishing vessels, which were not covered by the inquiry of 1906, have been obtained at this census.

CENSUS OF SHIPBUILDING: 1916.

A census of shipbuilding has also been taken in conjunction with the 1916 census of transportation by water. Form letters were prepared for use (a) in sending to each owner and operator a copy of the report made by him at the 1914 shipbuilding inquiry (taken as a part of the manufactures census of that year), with the request that he make a similar report for 1916, and (b) in collecting returns for shipyards that were not in existence in 1914; and letters were written to the governors of Hawaii, Porto Rico, and Alaska, asking for lists of shipyards in their respective Territories. This plan made it possible to obtain a large proportion of the reports by correspondence. Nearly all the establishments covered by the shipbuilding inquiry have already been accounted for, and the schedules received are now being edited, tabulated, and summarized.

A preliminary statement has been prepared giving, by coast districts and inland waters, separate statistics for steel and wooden vessels launched during the years 1916 and 1914, classified according to gross and net tonnage and character of power used; and a bulletin similar in form to those issued for the various industries covered by the last manufactures census is in process of preparation.

ELECTRICAL INDUSTRIES: 1917.

The census of electrical industries covers central electric light and power stations, street and electric railways, telephones, telegraphs, and municipal electric fire-alarm and police-patrol signaling systems. This inquiry has been made at quinquennial intervals, beginning with that for the year 1902, under the authority of the act establishing the permanent Census Bureau, and the current one, therefore, relates to the calendar year 1917. The preparation of index cards containing names and locations of establishments is now in progress.

In revising the schedule for electric railways, various inquiries under "Financial statistics" have been changed or regrouped in order to conform to the latest system of accounting adopted by the Interstate Commerce Commission.

A representative of the American Telephone & Telegraph Co. visited the Bureau in August and took part in a conference held for the purpose of establishing the form of the telephone schedule. Through the cooperation of the Post Office Department, a circular letter will be addressed to approximately 25,000 postmasters throughout the United States, requesting the names and locations of farmer or rural telephone lines or systems. The information supplied by the postmasters will supplement that obtained from the schedules used at the 1912 inquiry.

It is the intention to collect the reports for the census of electrical industries, so far as possible, by correspondence. A copy of the returns made for the census of 1912 will be sent to each establishment covered by that inquiry, together with a blank schedule for 1917, with the request that a similar report be furnished for this census.

VITAL STATISTICS.

The regular annual reports presenting statistics on mortality for the calendar years 1914 and 1915 were completed and published during the fiscal year 1917. The report giving birth statistics for the calendar year 1915 was issued early in August, 1917.

Reports giving mortality statistics and birth statistics for 1916 will be ready for the printer about December 1, 1917.

As set forth in my last report, a birth-registration area comprising the States of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, Michigan, and Minnesota and the District of Columbia was established toward the close of the calendar year 1915. This area, although it represented barely 10 per cent of the territorial extent of continental United States, had an estimated population of about 32,000,000, or more than 31 per cent of the total for the country. Maryland, Kentucky, and Virginia have since been added. Tests of the completeness of birth registration are now in progress in New Jersey and Indiana, and on their completion other tests will be begun in North Carolina, Ohio, Utah, and Wisconsin. The results obtained so far indicate that the registration area for births will be materially increased during the present year. The statistics gathered thus relate to an area having a population of such size and heterogeneity as to render them of great value and significance.

The reports show, for the registration area and its subdivisions, number of births, by sex and month; number of births, by sex, color, and parent nativity of white children; number of births and deaths, with excess of births over deaths and number of births per 100 deaths; and number of births of white children, by country of birth of father and of mother. Birth and infant-mortality rates in foreign countries are also shown.

The registration of deaths—which, like birth registration, is necessarily, under the Constitution of the United States, a function of the State and municipal authorities—is constantly becoming more nearly complete, the registration area having been extended until it now comprises 26 States, 46 cities in other States, and the District of Columbia, and contains over 70 per cent of the total population of the country.

A reprint was made of the Physicians' Pocket Reference to the International List of Causes of Death during the fiscal year, and a copy was sent to every physician in the United States whose name appeared in the American Medical Directory for 1916.

Transcripts of birth and death statistics for 1917 are being received and edited.

The census reports presenting vital statistics maintain a high standard of usefulness, which will be raised still further by the extension of the scope of certain branches of the work as explained in the subsection relating to vital statistics in the section headed "Plans for future work."

FINANCIAL STATISTICS OF CITIES: 1916.

The annual report presenting comparative financial statistics of cities having 30,000 inhabitants or more, relating, in the case of each

city, to its latest fiscal year terminating prior to July 1, 1916, was completed and sent to the printer in December, 1916, or within less than six months from the close of the fiscal period covered. This report covers (1) total and per capita receipts from the various sources of revenues; (2) total and per capita payments for expenses, interest, and outlays, the payments for expenses and outlays being given in detail; (3) total value of city properties; (4) total and per capita indebtedness; and (5) estimated true value and assessed valuation of taxable property, tax levies, rates, and methods of assessment. In addition, data on governmental organization were collected which show number, terms of office, methods of election or appointment, and annual salaries of specified city officials; form of government under which the city operates; if under commission form, departments over which each commissioner presides, and date when commission plan became operative; and a condensed history of the modern movement toward alteration of governmental organizations. Definitions of the terms employed in municipal accounting and a discussion of the difficulties encountered and methods employed in securing comparable data are given in the introduction.

All the field work on the current inquiry will be finished by the close of October, 1917, and copy for the report will be in the hands of the printer by the end of December.

The purpose of the reports on municipal finance, which have been published annually by the Bureau of the Census since 1902, is to present comparable statistics of cities for the information of city officials, civic bodies, students of economics interested in city management, and citizens who take an interest in questions relating to city betterment. To secure statistics that are comparable, the Bureau sends its agents to the various cities to translate into a standard classification the data contained in their accounts and reports, thus securing a uniformity of presentation that could not otherwise be obtained. The wide-awake citizen interested in the physical and financial welfare of his city desires to ascertain the weak points in its governmental methods by comparing its operations with those of other cities of similar size and situation. To provide the data to make this comparison possible is the purpose of the inquiry conducted by the Bureau of the Census. In so far as this purpose is accomplished, the city is assisted in securing better management and more economical administration of its public funds. Better management results in improved health conditions, greater recreational opportunities, and wider scope for educational activities; and more economical administration, whether securing better service for moneys expended or retaining in the city treasury for future use moneys formerly wasted, results in benefit to every taxpayer.

The classification of receipts and payments presented in the schedules of the Bureau of the Census has been indorsed by many of the leading civic organizations and has been adopted by a large number of cities and several States.

It is worthy of mention that the chief statistician in charge of the division of statistics of cities and 11 employees of that division have taken a special course in accounting which requires from 10 to 15 hours a week and about 51 weeks of actual study to complete.

GENERAL STATISTICS OF CITIES: 1916.

The report on this inquiry, which also refers in the case of each municipality having 30,000 or more inhabitants to its latest fiscal period terminating prior to July 1, 1916, was completed in December, 1916, and relates to the general subject of recreation. The principal features of this report, which is much in demand, are statistics of parks, playgrounds, museums and art galleries, zoological collections, music and entertainment, swimming pools and bathing beaches, and other special facilities for recreation.

The report presenting general statistics of cities for 1917, now in process of compilation, will give detailed data on fire departments in all cities having estimated populations of 30,000 and over, covering organization, equipment, grades and salaries, special training of firemen, appointments, promotions, pension systems, and other items considered of interest and value by authorities on this subject, who were consulted before the schedule was drafted.

Another subject to be included in the general-statistics report for 1917 is that of specified sources of city revenues. Under this head will be included data in regard to certain methods of providing revenues, such as deriving them from business taxes collected without the issue of licenses—for example, on gross earnings of insurance companies; from special assessments for public improvements, as for street paving, sidewalks, and sewer construction, with the percentage of cost paid by the benefited property owners; and from other methods of assessments, as for street cleaning and sprinkling. There will also be shown the kinds of other business licenses, the amounts derived from them, the rates of license fees, and the periods for which the licenses are granted. This information has been requested by city officials for a number of years. The annual financial-statistics reports show the amounts collected from such sources, but not the methods of levying and collecting.

The field work on the current general-statistics inquiry will be finished by October 15, 1917, and the copy for the report will be in the hands of the printer by the end of December.

FINANCIAL STATISTICS OF STATES: 1916.

The report giving comparative financial statistics for the 48 States and relating in each case to the latest fiscal year terminating prior to July 1, 1916, was completed in March, 1917, and sent to the printer shortly thereafter. The annual reports on this subject, of which the one referred to is the second, are similar in scope to those presenting financial statistics of cities. The general classifications are the same, changes having been made only when necessary in order to show data for the functions exercised by State governments that are not generally exercised by city governments. These statistics are in high favor with the State officials, and the annual visits of the agents of the Bureau to the several States for the purpose of collecting them will have great influence in bringing about the installation of proper accounting systems, as in the case of the cities having populations in excess of 30,000, for which similar statistics are published.

All the field work on the current State-finance investigation will be finished by the close of October, 1917, and copy for the report will probably be sent to the printer some time in February, 1918.

COTTON AND TOBACCO STATISTICS.

Cotton and cotton seed.—During the fiscal year the Census Bureau conducted its regular inquiries in regard to cotton and cotton seed. The reports issued comprised 10 relating to cotton ginned to specified dates during the ginning season; 12, published monthly during the year, relating to cotton consumed, imported, exported, and on hand, and to active consuming cotton spindles; 9, published at monthly intervals, relating to cotton seed received, crushed, and on hand, and to cottonseed products manufactured, shipped out, and on hand; 4, published quarterly, pertaining to bleached cotton fiber consumed in the manufacture of explosives; 2, published quarterly, relating to unbleached cotton fiber consumed in the manufacture of absorbent and medicated cotton; an annual bulletin on cotton production and distribution for the season of 1915-1916; and an annual pamphlet giving statistics on cotton production from the crop of 1916.

The periodical reports on cotton ginned, the monthly reports relating to cotton consumed, etc., and the monthly reports pertaining to cotton seed and cottonseed products are issued in the form of postal cards, which are mailed to a large number of growers, ginner, manufacturers, dealers, and others interested in the cotton and cottonseed industries. The annual bulletin presents, in amplified form, with text discussion, the statistical material contained in the postal-card reports for the year, together with other information not given in those reports.

The monthly reports on cotton seed and its products and the quarterly reports on cotton fiber consumed in the manufacture of explosives and of absorbent and medicated cotton mark the beginning of three new series of reports pertaining to the cotton and cottonseed industries, authorized by the act of August 7, 1916. Statistics relating to cottonseed products and linters obtained were published quarterly prior to the passage of this act under the general authority contained in the legislation authorizing the collection and publication of cotton statistics; but those now being issued at monthly intervals under authority of the act of August 7, 1916, cover the subject in much greater detail.

Stocks of leaf tobacco held by manufacturers and dealers.—During the fiscal year the Bureau issued, in the form of post cards, three quarterly reports relating to stocks of leaf tobacco, classified according to principal types, held by manufacturers and dealers. Under authority contained in the act of April 30, 1912, the Bureau had issued reports on this subject at semiannual intervals; but in compliance with the terms of the act of May 10, 1916, these reports have been published quarterly, beginning with that for October 1, 1916. At the close of each calendar year there will be issued a bulletin presenting the statistics contained in the several quarterly reports for the same year, together with data as to acreage, production, imports, exports, consumption, etc.

REPORTS RELATING TO SPECIAL CLASSES OF THE POPULATION.

The work on these reports has been considerably delayed because of the inadequate size of the Census Bureau's force and the necessity for employing it on other work considered to be of more pressing importance. The fundamental or basic statistics, which are of most interest to the general public, have, however, been issued some time since in bulletin form. The final and detailed reports have been prepared with a great deal of care in the belief that their permanent value was so great as to justify the delay due to the taking of sufficient time to make a thorough and exhaustive analysis of the figures, especially in view of the fact that the primary or fundamental figures had already been published in bulletin form.

The blind.—The report on the blind, which was completed and published during the fiscal year, is probably the most comprehensive and thorough statistical treatment of the subject ever published in English. It has been very favorably received and highly commended by specialists and by persons engaged in philanthropic work on behalf of the blind. The letters acknowledging its receipt and the press notices indicate that the interest attaching to a report of this character is very considerably enhanced if in addition to elaborate statistical tables it comprises a careful study and interpretation of the data.

Deaf-mutes.—The preparation of the report on deaf-mutes was completed shortly after the close of the fiscal year, and it is now in the hands of the printer. This report also has been very favorably received and commended by specialists and others interested in the subject, to whom it was submitted in proof.

Negroes.—The report on Negroes, which is now in type and will soon be published, is a compilation of statistics covering the entire period from 1790 down to the present time, including data from the annual mortality reports from 1900 to 1915, as well as from reports of the decennial censuses. The report thus presents, so far as data are available, a complete statistical account of the Negro race in the United States. Not only is this special report of permanent statistical value in itself, but it contains a vast amount of material which will be useful and easily available for incorporation in the Fourteenth Census reports. To some extent, therefore, the work done in compiling this report is preparatory work for the Fourteenth Census.

Prisoners and juvenile delinquents.—This report also is now in type and will be issued in the near future. As in the cases of the other reports relating to special classes, it will present a thorough and exhaustive analysis of the statistics which it contains.

RELIGIOUS BODIES.

The census of religious bodies is, under the law, taken at decennial intervals. The current inquiry relates to the calendar year 1916. The report, which will be published before the close of the present fiscal year, will present, for each religious denomination, detailed statistics in regard to church membership, church property, number and salaries of ministers, Sunday schools, etc.

Because of the pressure of other work, preparations for the 1916 census of religious bodies could not be begun until October of that year; and the progress of the work was interrupted somewhat during

the following May and June by reason of the necessity for employing considerable numbers of clerks on special work for the Treasury and War Departments.

Conferences were held with representatives of religious organizations, at which suggestions were made which have aided greatly in determining the extent and form of the inquiries to be made on the schedules. Notices regarding the census of religious bodies were sent during the year to the religious press generally. These notices were cordially received, and in several instances translations were made for insertion in papers other than English.

This census will cover about 204 denominations, comprising 240,000 churches. The statistics for 124 of these denominations are to be secured wholly by mail, for 9 denominations partly by mail and partly by contract, and for the remaining 71 denominations wholly by contract. The first church schedules were mailed on January 4, 1917. At the close of the fiscal year schedules had been sent to 213,379 churches, and the total number returned was 128,991, or about 60 per cent of the number sent; and to date (Sept. 30) a total of 232,288 schedules have been sent out, of which 167,186, or 72 per cent, have been returned.

OFFICIAL REGISTER.

The Official Register of the United States is now in course of preparation. This publication consists mainly of a directory of Federal employees, showing name, designation, compensation, branch of service in which employed, etc. (See reference to Official Register in section headed "Legislation needed.")

SPECIAL AND MISCELLANEOUS LINES OF WORK.

MARRIAGE AND DIVORCE.

Statistics of marriage and divorce covering the calendar year 1916 are now being collected. The canvass thus far has been conducted entirely by mail.

Statistics pertaining to the subject of marriage and divorce for the 40-year period 1867 to 1906, inclusive, have heretofore been collected and published, and it had been the intention to compile such statistics for the 10-year period 1907-1916; but because of the national crisis, as a result of which the Census Bureau has been called upon to do considerable emergency work for other departments whose activities are intimately connected with war preparations, it has been decided to make the current inquiry relating to marriage and divorce cover only the year 1916.

The report will show, among other things, by counties, the number of marriages performed and the number of divorces granted during the year 1916, with detailed statistics for divorces, covering such matters as duration of marriage; cause of divorce; party to which granted, and whether contested; number of children; and whether alimony was asked, and whether granted.

MONOGRAPH ON CANCER.

A monograph entitled "Mortality from Cancer and Other Malignant Tumors in the Registration Area of the United States, 1914," was completed and published during the past fiscal year. This mono-

graph presents, in much greater detail than that given in the annual reports issued by the Bureau, statistics relating to deaths from cancers and other malignant tumors throughout the registration area in 1914. The work was undertaken at the request of the American Society for the Control of Cancer. Both this society and the American Public Health Association are especially interested in the monograph and have been active in cooperating with the Census Bureau in its compilation.

SUPPLEMENTARY OCCUPATION STATISTICS.

At times when clerks could be spared from other and more pressing lines of work the tabulation of occupation statistics supplementary to those published as a part of the reports of the Thirteenth Census has been carried on. All information of this character has considerable permanent value in itself, but the main reason for compiling it is found in its great value as affording a proper measure of comparison with the occupational data to be secured in 1920. This is particularly important in view of the fact that the classification now employed was not in use prior to 1910.

A tabulation showing the marital condition of women gainfully occupied was prepared at the request of the American Labor Association for use in relation to the subject of health insurance, and particularly maternity insurance. The work was completed in March, 1917, and the results were transmitted to the secretary of the above-named association for its information and for use in States where legislative action in respect to health insurance had been taken or was then pending; and a press summary and mimeograph copies of tables were made available for the use of the press.

Other phases of the work on supplementary occupation statistics relate to occupations of the foreign born and of women and children.

CENSUS OF CITY DISTRIBUTION.

In view of the great importance of city cartage as an element in the total cost of goods to the consumer, the Bureau of the Census, in the latter part of the calendar year 1916, at the direction of the Secretary of Commerce, made a brief preliminary survey in the city of Washington covering four important classes of commodities—coal and wood, milk, ice, and department-store merchandise. The results of this survey, which were published in the form of a preliminary statement dated January 3, 1917, were considered by the Secretary to be sufficiently striking to justify him in directing the Census Bureau to make a further and more exhaustive inquiry. Unfortunately, the Bureau had not available either the force or the funds with which to extend the investigation to cities other than Washington; but an inquiry was made covering gross sales and delivery costs during the year 1916 in 120 carefully selected establishments in this city, representing 17 lines of retail business (some of which did a wholesale business also), together with 8 wholesalers of meat products, the report of which was published on April 21, 1917. On the basis of the results obtained from this canvass, the total transportation and cartage costs applying to commodities for public consumption in Washington were estimated, for the year 1916, at \$15,550,000 (of which amount slightly more than one-half represented cartage costs alone),

this being equivalent to approximately \$40 for each person, or \$190 for each family.

These figures emphasize the importance of the subject; and it is hoped that at some future time the Bureau will be in a position to make a more exhaustive canvass, covering a number of representative cities throughout the country.

FISHERIES OF NEW YORK CITY.

On August 23, 1917, the Secretary of Commerce authorized the Director of the Census to make a tentative collection of data pertaining to the fisheries of New York City during the period from September 1 to December 31, 1917, the details of the method to be employed in doing this work to be arranged by the Director of the Census and the Acting Commissioner of Fisheries. It is thought that by the close of the period specified it will be possible to determine the feasibility of making the inquiry a permanent one.

Since the conditions in New York City differ radically from those at other ports at which fishery agents are stationed, it will be necessary to develop a special scheme for collecting and reporting the data. The Director of the Census and the Acting Commissioner of Fisheries accordingly agreed that it would be advisable to have a field agent of the Bureau of Fisheries, who was acquainted with the New York fish trade, assist in the work for the first two or three weeks. An employee of the Census Bureau was designated to make the inquiry and entered on duty September 1, 1917.

The data to be collected comprise (1) landings of fresh fish by American fishing vessels and boats and (2) receipts of fresh fish by rail and steamer. The daily receipts will be published in monthly bulletins similar to those issued by the Bureau of Fisheries for the ports of Portland, Me.; Gloucester and Boston, Mass.; and Seattle, Wash.

EDIBLE VEGETABLE OILS.

The manufacture of edible oils from seeds other than cotton seed is of recent origin in the United States, only a few concerns engaged in the production of such oils having been reported at the manufactures census of 1914. Because of the rapidly increasing importance of this industry, the Bureau of Chemistry, of the Department of Agriculture, requested the Census Bureau to make a special canvass of it for the calendar year 1916. This was done, and the results were published in June, 1917, in the form of a press statement in which it was shown that 112 establishments produced during 1916 a total of 262,558,661 pounds of oils from peanuts, mustard seed, kapok seed, rape seed, sunflower seed, soy beans, walnuts, corn, copra, palm kernels, and olives. The movement to grow soy beans, peanuts, and other oil-bearing seeds and nuts for the production of oil has received a great impetus, and it is believed that several hundred establishments will be engaged in crushing the crops grown in 1917.

SPECIAL CENSUS OF POPULATION.

A special census of Shreveport, La., was taken as of February 15, 1917, at local request and expense.

BULLETIN ON EXECUTIVE CIVIL SERVICE.

The Bureau is preparing a statistical report on the employees in the Federal executive civil service on July 1, 1916. Similar reports were published relating to the years 1903 and 1907. Individual cards to the number of about 250,000 have been filled out and returned by the different departments and offices of the Government and are now being edited preparatory to tabulation. This work is being carried on in cooperation with the Bureau of Efficiency, which is utilizing the data as a basis for computing the cost of civil-service pensions.

LIFE TABLES.

As shown by my last report, the Census Bureau compiled a series of "life tables" based on the population in 1910 and the mortality in the three years 1909, 1910, and 1911, for the six New England States, New York, New Jersey, Indiana, Michigan, and the District of Columbia. These tables, which were published in June, 1916, are similar to those prepared by life insurance companies but differ from the latter in that they relate to the entire population of the area covered instead of being limited to risks selected through medical examination and otherwise. A similar set of tables exhibiting mortality conditions in 1890 and 1901 and during the decennium 1901 to 1910, inclusive, is now in course of preparation, and in the report presenting these tables will be given the original data on which they are based, together with an explanation of the methods employed in computing them.

A reprint of the tables already published was made from the original plates during the fiscal year 1917.

STATISTICAL DIRECTORY OF STATE INSTITUTIONS.

As explained in my previous report, the Bureau has been compiling data for a statistical directory of State institutions for defective, dependent, and delinquent classes, which will show for each institution of that character the number of inmates; cost of maintenance; value of plant; acreage of grounds or land; numbers of officials, assistants, and employees; and other data. The returns are now nearly complete, only a few institutions remaining for which the schedules have not yet been received. The classes of institutions covered by this inquiry include State prisons and penitentiaries and State institutions for the insane, feeble-minded, epileptic, tuberculous, blind, deaf, and dependent. In addition to the data for the individual institutions the report will present general statistics for the States and summaries with maps indicating the location of the institutions, the density of population, etc.

HISTORY AND GROWTH OF THE UNITED STATES CENSUS.

A volume having this title, published in 1900, gave a historical review of American census taking, showing the items of information called for by each of the schedules from census to census, publications, cost of censuses, summary of census legislation, etc. The material necessary for bringing up to date the information contained

in this volume is now being compiled, and there have been assembled nearly all the forms required to make a complete chronological presentation of the various census inquiries, showing the changes and developments which have taken place. This publication will be in the form of an additional volume compiled along the same lines as the original.

SEARCHING OF CENSUS RECORDS TO DETERMINE AGES.

The work of searching the census records to determine ages of individuals was considerably increased as a result of the registration, under the selective draft act, of men 21 to 30 years of age, inclusive. In order to establish the ages of men who failed to register, but were believed to be within the specified age limits, recourse to the enumerators' returns was necessary in many cases. The returns made at the census of 1900 were especially valuable for this purpose, since, in addition to the age at the last birthday, they also showed the month and year of birth.

THE CENSUS EXHIBIT.

The Census Bureau's exhibit at the Panama-Pacific International Exposition, which was awarded the grand prize and gold medal "For an exhibit of methods and machines employed in the collection and tabulation of statistics," was returned to the Bureau at the close of the exposition and has been made a permanent exhibit. It comprises an automatic tabulating machine, a sorting machine, a punching machine, and a large number of charts and maps, the latter showing graphically some of the results of the Thirteenth Census and of important inquiries that have been made since that census.

The establishment of this exhibit as a permanent one has been amply justified by the numerous requests for its display at expositions and by the interest in census work which it has aroused. It was shown at the meeting of the Western Pennsylvania Exhibition Society held at Pittsburgh during the month of September, 1916; at the Electrical Exposition and Motor Show in New York City from October 6 to 21, 1916; and at the Industrial Exposition and Export Conference held at Springfield, Mass., from June 23 to 30, 1917. A portion of the exhibit was also on display at the Annual Convention of the Chamber of Commerce of the United States held at the New Willard Hotel, Washington, D. C., January 31 to February 3, 1917. At each of these expositions publications of the Census Bureau were distributed by the persons in charge of the exhibit.

When not in use elsewhere this exhibit is installed in the Commerce Building and is always open to the public.

ASSISTANCE RENDERED OTHER DEPARTMENTS.

Estimates of population for use of War Department.—An important piece of work begun by the Census Bureau just before the close of the fiscal year and completed shortly afterward was the preparation of estimates of population for use in connection with the registration of men subject to military duty and with the apportionment of the draft. The first set of these estimates was prepared in May for use in appor-

tioning supplies of registration cards to the various counties and cities; and the second set, prepared late in June, was based on the registration and was intended solely for use in the apportionment of the draft among the States and their subdivisions. Both sets were prepared at the request of the Provost Marshal General of the War Department.

In making the latter estimates, the Census Bureau was confronted by the necessity of securing the greatest possible measure of justice to each community. The method adopted, therefore, was based on the assumption that the registrants in each community represented a fixed proportion of the population. This proportion for the United States as a whole was determined to be equal to 9.32 per cent; and the population estimates for the various States, cities, and counties were therefore computed by dividing the number of registrants by 0.0932. This method yielded the fairest possible basis for the apportionment of the draft, since the localities whose population was overestimated were those in which there was an excess of men 21 to 30 years of age, inclusive, while the localities whose populations were underestimated were those in which the proportions of men of these ages were smaller than the average.

Any other method which might have been employed would inevitably have resulted in overstating the population of some communities which had relatively small proportions of men 21 to 30 years of age; and the seriousness of the injustice that would thus have been brought about may be realized when the fact is taken into consideration that the proportion which men of these ages represent of the total population is fully three times as great in some localities as in others.

Allocating enlistments and other work for the office of the Provost Marshal General of the War Department.—Considerable work was done for the office of the Provost Marshal General of the War Department in connection with the allocation of enlistments in the Regular Army from April 2 to June 30, 1917, inclusive. The 117,974 men enlisting in the Regular Army during this period represented a portion of the credits to be applied to the gross quotas of the States and their 3,300 subdivisions in the apportionment under the selective draft act.

Other work done for the Provost Marshal General's Office included the addressing of franks and envelopes for use in the transmission of registration cards and instructions to governors, mayors, and sheriffs throughout the United States and the computation of the net quotas of the several States and Territories and the District of Columbia in the apportionment of the 687,000 men drafted on the first call.

Liberty Loan work.—A considerable number of clerks were employed for about a week in addressing envelopes and mailing copies of the Des Moines speech of the Secretary of the Treasury in regard to the Liberty Loan. This work was greatly appreciated by the Secretary of the Treasury.

List of shipbuilding establishments.—Special information was compiled from the 1916 shipbuilding inquiry for the use of the United States Shipping Board, and similar information, together with summaries of wage earners employed in shipbuilding establishments, has been furnished the Department of Labor.

Total amount of war work done.—The total time spent by the Census Bureau's force on war work, or work having some bearing on war

preparations—including, in addition to that already specified, work for the American National Red Cross, the Department of Justice, and the Council of National Defense and miscellaneous work for other governmental establishments or for individuals—to September 30, 1917, was equivalent to 4,550 days, or nearly 15 years, for one employee.

Assistance to Federal Trade Commission in compilation of coal data.—During the months of August and September, 1917, considerable assistance was rendered to the Federal Trade Commission in connection with the compilation of data relating to cost of production of coal at the mines and to prices at which coal has been sold at retail.

Ages of pensioners.—The value of the old decennial census records has been effectively demonstrated during recent years by the increasing number of requests from the Pension Bureau for data needed to establish the ages of pensioners, approximately 3,500 such requests having been received during the fiscal year 1917. Since, in order to obtain increases of pensions, soldiers and their widows are obliged to show evidence of their ages, and since throughout the greater part of the country no reliable birth records are in existence, or at least none have been maintained until recently, it has been necessary in many cases to obtain such evidence from Census records.

WORK IN MECHANICAL LABORATORY.

During the year the mechanical laboratory maintained the machines used in the Census Bureau and the Bureau of Immigration, made repairs to computing machines, rearranged the keyboards of 10 pantograph punches to conform to the requirements of the card used by the Eight-Hour Commission in tabulating its statistics, and made definite and satisfactory progress on the construction of the tabulating machines to be used in the Fourteenth Census. A new automatic tabulating machine was completed toward the close of the fiscal year, given a practical test in connection with the work of tabulating the mortality data of the division of vital statistics, and found to be entirely satisfactory and a great improvement over the machine used in the Thirteenth Census. This machine is to be used as a model in constructing 25 tabulating machines for the Fourteenth Census work. Many of the parts for these machines have already been manufactured in the mechanical laboratory or purchased in the open market upon specifications prepared by the Bureau's chief mechanician.

Considerable experimental work has been done on one of the sorting machines during the last six months with a view to bringing it to a higher state of perfection. One of the automatic punches used in the Thirteenth Census was rebuilt during the year and will be tested against an improved commercial key punch in order to determine which machine is better adapted to the punching work of the next decennial census.

If the Bureau obtains the necessary appropriations for the next fiscal year, it is planned to have the 25 tabulating machines, 5 extra tabulator bases, and 114 extra counting units of 10 counters each constructed and 19 card-sorting machines and 5 card-counting machines given a thorough overhauling, by July 1, 1919, the beginning of the Fourteenth Census period.

INTEGRATING COUNTER.

For some years past the officials of the Census Bureau have had in mind the development of an "integrating counter"—that is, a counter which will not merely record and add units but will also record and add numbers, thus performing automatically the work done by the operator of an adding machine—for use in tabulating various classes of the data gathered by the Census Bureau, such as those pertaining to agriculture and manufactures. The need of an integrating tabulator for doing cost accounting and similar work in other governmental offices has also been recognized. In 1911 some sketches and drawings for a model integrator were made, but work along this line soon had to be discontinued in order that the entire energies of the mechanical-laboratory force might be directed toward the development of a sheet-printing device for use in connection with the automatic tabulator employed by the Bureau, and until very recently nothing further has been done in regard to the integrating counter.

Several types of integrating machines are now manufactured by private companies, but their use by the Bureau is undesirable not only by reason of their cost but also because the control of the tabulating devices used by the Government should not be in the hands of one company.

At the request of the Secretary of Commerce, Congress granted to the Census Bureau, in the legislative, executive, and judicial appropriation act for the fiscal year 1918, \$60,000 for expenditure in the development, improvement, and construction of tabulating machines, and \$30,000 of this amount has been allotted for use in the development and construction of an integrating counter. A force has been organized for the work, the patent situation has been carefully examined, machinery and supplies are being purchased, and other preliminary work has been begun.

PUBLICATIONS ISSUED.

Following is a list showing the publications issued during the fiscal year and since its close. In addition to these, the Bureau has published a large number of press summaries.

Class and title.	Date issued.	Pages.	Edition.
JULY 1, 1916, TO JUNE 30, 1917.			
Reports (cloth bound and of quarto size except as otherwise indicated):			
Mortality statistics: 1914.....	Sept. 25, 1916	714	6,000
Mortality statistics: 1915.....	Apr. 27, 1917	707	5,000
Mortality from cancer and other malignant tumors in the registration area of the United States: 1914.....	Jan. 23, 1917	212	2,000
The blind in the United States: 1910.....	Apr. 10, 1917	342	4,000
Financial statistics of cities: 1915.....	Aug. 7, 1916	338	7,500
Financial statistics of States: 1915.....	Sept. 5, 1916	125	5,000
Plantation farming in the United States (paper).....	Jan. 25, 1917	40	3,000
Abstract of the census of manufactures: 1914 (octavo).....	June 22, 1917	722	10,000
Total.....		3,200	42,500

Class and title.	Date issued.	Pages.	Edition.
Bulletins (quarto):			
No. 132—Abstract, financial statistics of cities: 1915.....	Sept. 22, 1916	117	3,000
No. 133—Estimates of population, 1910-1916, including results of State enumerations made in 1915.....	Dec. 20, 1916	46	7,000
No. 134—Cotton production and distribution, season of 1915-16.....	Dec. 23, 1916	99	45,000
Total.....		262	55,000
Census of manufactures: 1914—			
State bulletins—			
Arkansas.....	June 8, 1917	23	1,200
Georgia.....	May 7, 1917	27	1,800
Idaho.....	June 2, 1917	15	900
Indiana.....	June 8, 1917	47	2,600
Louisiana.....	June 22, 1917	27	1,300
Mississippi.....	May 24, 1917	19	1,200
Nevada.....	Apr. 21, 1917	13	900
North Carolina.....	Feb. 28, 1917	25	2,600
Oregon.....	May 8, 1917	25	1,200
Rhode Island.....	June 8, 1917	31	1,100
South Dakota.....	May 7, 1917	15	1,000
Utah.....	May 8, 1917	21	800
Vermont.....	June 26, 1917	25	1,500
West Virginia.....	Mar. 24, 1917	25	1,900
Wyoming.....	Apr. 24, 1917	13	600
Total.....		851	20,600
Industry bulletins—			
Flour-mill and gristmill products.....	June 26, 1917	20	6,400
Glass.....	June 4, 1917	13	1,500
Ice.....	Mar. 24, 1917	15	5,600
Paper and wood pulp.....	June 8, 1917	19	2,500
Power laundries.....	July 31, 1916	28	8,500
Rice cleaning and polishing.....	Sept. 23, 1916	9	8,000
Total.....		104	32,500
Report of special census (octavo): Population of Shreveport, La. (enumerated Feb. 15, 1917).....	Apr. 17, 1917	8	300
Miscellaneous publications:			
Census of manufactures: 1914—General totals for the United States, by geographic divisions, States, and Territories, 1914, 1909, 1904, and 1899 (octavo).....	Dec. 13, 1916	26	10,000
Circular No. 2—Circular of information concerning Census publications: 1790-1916 (octavo).....	Feb. 9, 1917	124	2,000
Circular No. 5—Tentative program of the Bureau of the Census: 1916-1919 (octavo).....	Aug. 14, 1916	14	5,000
Annual report of the Director of the Census to the Secretary of Commerce, fiscal year 1916 (octavo).....	Nov. 10, 1916	31	2,500
Study of cartage costs in the city of Washington (octavo).....	Apr. 28, 1917	14	2,000
Manual of the international list of causes of death (second reprint; revised) (octavo).....	July 25, 1916	307	500
The story of the Census: 1790-1916 (reprint; revised) (octavo).....	Dec. 7, 1916	38	5,000
Advance tables of cotton production in the United States—crop of 1916 (quarto).....	June 26, 1917	43	41,000
Physicians' pocket reference to the international list of causes of death (2½ by 6 inches).....	Sept. 19, 1916	28	200,000
32 reports, in card form, relating to cotton and cotton seed.....	July 14, 1916 June 22, 1917	32	1,280,000
3 reports, in card form, relating to stocks of leaf tobacco.....	Nov. 8, 1916 Jan. 31, 1917 May 2, 1917	3	61,000
Total.....		660	1,800,000
Grand total, July 1, 1916, to June 30, 1917.....		4,585	1,769,900
JULY 1 TO SEPTEMBER 30, 1917.			
Reports (cloth bound and of quarto size except as otherwise indicated):			
General statistics of cities: 1916.....	Aug. 18, 1917	88	4,500
Financial statistics of cities: 1916.....	Sept. 22, 1917	375	6,500
Financial statistics of States: 1916.....	Sept. 4, 1917	127	3,500
Birth statistics for the registration area of the United States: 1915 (paper).....	Aug. 7, 1917	78	5,000
Total.....		668	19,500

Class and title.	Date issued.	Pages.	Edition.
Census of manufactures, 1914:			
State bulletins—			
Alabama.....	Sept. 22, 1917	29	1,100
California.....	July 25, 1917	63	2,600
Connecticut.....	Aug. 23, 1917	45	1,700
Delaware.....	Sept. 11, 1917	19	700
District of Columbia.....	Aug. 16, 1917	13	600
Florida.....	July 23, 1917	21	1,000
Kentucky.....	Aug. 29, 1917	27	1,200
Maine.....	Aug. 20, 1917	29	1,300
Minnesota.....	July 25, 1917	41	2,200
Missouri.....	Aug. 22, 1917	43	2,600
Montana.....	July 23, 1917	17	1,000
Nebraska.....	July 23, 1917	23	1,500
New Hampshire.....	Aug. 23, 1917	27	1,000
New Mexico.....	July 23, 1917	11	800
North Dakota.....	Aug. 28, 1917	15	1,000
South Carolina.....	July 23, 1917	21	1,100
Tennessee.....	July 23, 1917	31	1,500
Texas.....	Sept. 25, 1917	35	2,500
Virginia.....	Aug. 22, 1917	33	1,600
Washington.....	July 11, 1917	33	1,000
Wisconsin.....	Sept. 5, 1917	39	2,000
Total.....		615	31,200
Industry bulletins—			
Automobiles.....	Aug. 15, 1917	19	2,500
Butter, cheese, and condensed milk.....	Aug. 31, 1917	23	5,250
Glucose and starch.....	Aug. 20, 1917	9	1,300
Oilcloth and linoleum.....	Aug. 20, 1917	8	1,000
Soap.....	July 11, 1917	11	1,600
Sugar.....	July 2, 1917	13	1,300
Turpentine and rosin.....	July 11, 1917	10	1,300
Total.....		93	14,250
Miscellaneous publication: Legislation relating to the Bureau of the Census.....			
	Aug. 20, 1917	71	100
Grand total, July 1 to September 30, 1917.....		1,447	65,050

PLANS FOR FUTURE WORK.

PREPARATIONS FOR FOURTEENTH CENSUS.

Perhaps the most serious obstacle in the way of the prompt and efficient handling of decennial censuses heretofore has been the lack of time given to the preliminary work previous to the actual enumeration. The Bureau of the Census was made a permanent organization at the close of the Twelfth Census period (July 1, 1902), primarily for the purpose of facilitating the work of future decennial censuses. If the Bureau is to succeed in any reasonable measure in justifying its permanent establishment—at least so far as this primary purpose is concerned—it must have, some time prior to the beginning of each decennial census period, a well-organized administrative and clerical force to serve as a nucleus for the enormously expanded organization necessary for the conduct of the decennial census work.

Furthermore, in order that preparations for the decennial census may be made intelligently and without waste of effort, it is necessary for the Bureau to know long in advance of the actual enumeration the exact nature and extent of the information it is to be required to secure, compile, and publish. In this connection Director North, in his annual report to the Secretary of Commerce and Labor, under date of December 1, 1907, said concerning legislation for the Thirteenth Census:

The Director of the Census is entitled to at least two years in which to prepare for the greatest single piece of work which the Government undertakes, and in order to make this preparation intelligently and to the best possible advantage he should know for that length of time just what are the provisions in the law under which the work is to be undertaken.

The Fourteenth Census period will begin July 1, 1919, and will end on June 30, 1922. Realizing the importance of making proper preparations for the taking of the Fourteenth Census, the Director of the Census, on March 20, 1917, issued an order to the officials of the Bureau in which attention was called to this matter and it was directed that current inquiries of the Bureau should be finished, so far as possible, and all the preliminary work for the next decennial census practically completed by the beginning of the census period.

In compliance with this order preparations for the Fourteenth Census have already been begun. These preparations include a consideration of the act providing for the Thirteenth and subsequent decennial censuses, with a view to determining whether amendments are required to adapt it to the needs of the Fourteenth Census and, if so, the character of such amendments; revisions of the schedules to be used in the several field canvasses; and work in the mechanical laboratory.

At about the close of the fiscal year a committee composed of officers of the Bureau was organized to consider what changes, if any, were necessary in the existing legislation. This committee has since been holding weekly meetings and will continue to do so until it has given thorough consideration to every section of the act providing for the Thirteenth and subsequent decennial censuses, after which it will formulate its recommendations in time for presentation at the opening of the next session of Congress.

In making its plans for taking the Fourteenth Census the Bureau has invited and obtained the cooperation of outside statisticians and others interested in census work. During the week beginning August 20, 1917, a series of conferences were held between representatives of the Census Bureau and a committee of statisticians of the Department of Agriculture in regard to changes in the schedules used in collecting agricultural data. The representatives of the Census Bureau, eight in number, had been temporarily appointed as special agents for service in connection with the revision of the agricultural schedules. Of these eight special agents, four had been officials of the division of agriculture, three had been special agents employed for expert work in that division during the Thirteenth Decennial Census period, and one was the editor of an agricultural periodical in North Carolina. The committee of the Department of Agriculture comprised five officials representing the Bureau of Crop Estimates, the Office of Markets, the Office of Farm Management, the Office of Farm Horticultural Investigations, and the Division of Animal Husbandry.

At these conferences a most gratifying spirit of cooperation—much greater than had prevailed in connection with the preparations for preceding censuses—was manifest, and the various recommendations as to changes in the agricultural schedules were agreed upon by unanimous vote. Some of the changes contemplated will have to receive the approval of Congress before they can be embodied in the schedules to be used at the Fourteenth Census, and recommendations as to the desired legislative action will be included in the report of the com-

mittee already referred to which is considering proposed changes in legislation.

The Department of Agriculture is planning to assist the Census Bureau by making a test of the tentative general schedule agreed upon. Through its field employees, a canvass of representative farms throughout the country will be made, the results of which will be tabulated by the Bureau of the Census. In this way the practicability of each of the various items of information called for by the schedule can be determined, and changes can be made if necessary in order to adapt it properly to the requirements of the Fourteenth Census work.

In making its preparations for the Fourteenth Census inquiries in regard to population, manufactures, and mines and quarries, as well as agriculture, the Bureau, having in mind the increase in the complexity of the inquiries that has taken place from census to census, with the result that it has become impossible to complete the work within the three-year period beginning on July 1 of the year preceding that in which the enumeration is made, is fully alive to the necessity for simplifying them to the greatest practicable degree and for rearranging its work so as to make possible the completion of the tabulations and the publication of the main reports of the Fourteenth Census by June 30, 1922, as prescribed by law. But if the Bureau is to be successful in carrying out its intentions in this respect, it will be absolutely necessary that the needed legislation be enacted in the near future and that—as pointed out in the section entitled "Office force"—an adequate amount be appropriated for preliminary work.

VITAL STATISTICS.

Weekly mortality reports.—Plans are now being made to issue weekly reports of mortality, which will give within 72 hours after the close of each week the mortality rates for about 50 large cities in the United States. Such reports will quickly reveal any unusual health conditions in any of our large cities and will serve as an important health index.

Mortality from tuberculosis.—A monograph on mortality from tuberculosis in the registration area for the calendar year 1918 will be prepared and published. It was originally intended to issue this monograph for the year 1916, but the work was postponed in the hope of obtaining more definite statements regarding the occupations of decedents. In view of the great mortality resulting annually from tuberculosis—which until recently exacted a heavier toll than any other cause of death and still leads all others except diseases of the heart (including endocarditis)—a publication of this character, showing the relationship between certain occupations and the prevalence of tuberculosis, will be of unusual value and interest.

Color and race in relation to births and mortality.—A monograph on mortality by color and race, with especial reference to birth-places of mothers of white persons, will be prepared and published. This monograph will measure the influence of color and race upon mortality rates, as revealed by the population and mortality figures for the calendar years 1910 and 1920.

As the birth-registration area grows and the birth statistics published by the Census Bureau assume a greater national significance,

the annual birth-statistics reports will be enlarged and tables will be added to show the influence of race and color upon birth rates and upon rates of infant mortality.

LEGISLATION NEEDED.

FOURTEENTH CENSUS LEGISLATION.

As pointed out in the subsection headed "Preparations for Fourteenth Census," in the section entitled "Plans for future work," a committee appointed for the purpose is at present engaged in making a careful study of the act providing for the Thirteenth and subsequent decennial censuses, with a view to determining whether amendments are needed to adapt it to the requirements of the Fourteenth Census and, if so, the character of such amendments. Not all the committee's recommendations have yet been formulated, but they will be ready in ample time for submission to Congress in December.

REGISTRATION OF BIRTHS AND DEATHS.

In the matter of birth and death registration the United States has lagged far behind many other countries. This is because the registration of vital data has been left to the action of the individual States, many of which have failed to establish and maintain adequate systems of recording births and deaths.

The practice of the Census Bureau is to admit to the "birth-registration area" those States, and to the "death-registration area" those States and those cities in nonregistration States, in which, as the result of tests conducted by the Bureau, it appears that the registration is at least 90 per cent complete and in which the registration laws are such as to give promise of a still more nearly complete registration. In only 13 States and the District of Columbia does the registration of births comply with these requirements. In six more States tests are being made, or soon will be made, and the records of some of these States are likely also to be accepted in the near future. But throughout a large part of the country either there is practically no birth registration at all or the registration is far from complete.

The timeliness of this subject is obvious in view of the registration, on June 5, 1917, of all men between the ages of 21 and 30, inclusive, in compliance with the terms of the selective draft act. In many cases when it became necessary to establish the ages of men in order to determine their liability to draft no records except the census population schedules were available. The decennial population returns as to dates of births, however, by no means afford a satisfactory substitute for records made immediately or within a few days after the occurrence of the births; moreover, they do not cover the cases of children who have been born and have died during the interval elapsing between two successive censuses.

In death registration the United States has made greater progress than in birth registration. Nevertheless, only 26 States, 46 cities in other States, and the District of Columbia maintain mortality records of sufficient accuracy to justify the Census Bureau in accepting them as authoritative. These States and cities contain about 70 per cent of the total population of the country.

It is highly desirable that the birth and mortality records of every municipality or county should be made reliable, permanent, and readily available for reference; and the only way to insure the existence of this condition in all localities throughout the country is to place the matter under Federal control.

Thus far the only legislative action taken by the Federal Government toward the improvement of vital statistics is found in a joint resolution of Congress, approved February 11, 1903, requesting State authorities to cooperate with the Census Bureau in securing a uniform system of birth and death registration. The Census Bureau itself has conducted a propaganda in the interest of better birth and death registration by the States, and has achieved some success. In order, however, that the United States may have complete birth and death statistics, comparable with those of the more enlightened foreign countries, it will be necessary either to provide for comprehensive Federal control and supervision of birth and death registration or to wait until the last one of the 48 States shall enact and properly administer adequate laws for the registration of vital data.

After careful consideration of the subject, therefore, I have come to the conclusion, in which I have the support of all my subordinate officials, that by far the most satisfactory and effective means to hasten the day when the entire United States shall have adequate registration of births and deaths would be afforded by placing the matter entirely under Federal control and supervision.

EMPLOYMENT OF TEMPORARY CLERKS, STENOGRAPHERS, AND MACHINE OPERATORS.

In view of the facts that many of the Census Bureau's inquiries are made at decennial or quinquennial intervals and that the amount of work of certain kinds in connection with its annual inquiries varies greatly from month to month, it is highly important, in the interest of good administration, that legal provision be made for the needed elasticity in the clerical and machine-operating forces. A bill (H. R. 2359) authorizing the temporary employment of clerks, stenographers, and machine operators, to be selected from the registers of the Civil Service Commission, has been introduced in the House of Representatives, and its enactment into law is recommended.

FINANCIAL STATISTICS OF STATES.

Financial statistics of States are now being collected annually under authority of an order issued by the Secretary of Commerce. Legislative authority for making the inquiry a permanent one is desirable, however, and a bill to provide such authority (H. R. 2358) is now before the House of Representatives. Its enactment into law is recommended. The statistics in question are of great value to State officials and others, who are desirous that the investigation be made regularly hereafter.

TOBACCO STATISTICS.

The law providing for the collection of quarterly statistics of stocks of leaf tobacco held by manufacturers and dealers requires that the blanks be mailed 10 days before the date to which the report relates

and gives the persons reporting 10 days after that date in which to prepare and forward their returns. The time elapsing between the date on which the blanks are received and that on which they are filled out and returned to the Census Bureau—almost three weeks in most cases—is thus so great that many of them are mislaid or lost, with the result that the receipt of the returns and consequently the publication of the reports are delayed.

The law requires an affidavit, which compels a needless expense in places where there is no deputy collector of internal revenue, who is required to administer the oath without charge. This at times occasions delay, since some wait for a visit from the deputy collector in order to save the expense of making the affidavit before a notary public or other official.

It is recommended that the law be amended (1) to provide for mailing the blanks 5 days, instead of 10, before the date to which the report relates, and to allow only 5 days, instead of 10, after that date in which to prepare and forward the returns; and (2) to empower and require the postmaster or assistant postmaster to administer the necessary oath without expense.

OFFICIAL REGISTER.

I desire to renew the recommendations for changes in the scope of the Official Register of the United States which have appeared in the annual reports of the Director of the Census for the fiscal years 1913 to 1916, inclusive, and to emphasize the necessity for them. These changes comprise:

1. The establishment of a card directory, prepared and maintained by the Civil Service Commission from information furnished by the executive departments and independent offices, showing the name and status of every person in the Government service except the officers and enlisted men of the Army, Navy, Marine Corps, and Coast Guard. (Lists of officers of the Army, Navy, and Marine Corps are already published annually in the Army Register and Navy Register, issued by the War and Navy Departments, respectively.)

2. The elimination from the Official Register of detailed lists of all employees, by name.

3. The publication annually by the Bureau of the Census of an Official Register containing—

- (a) A list of all employees of the Government (except officers and enlisted men in the Army, Navy, Marine Corps, and Coast Guard) whose duties are of an executive, supervisory, technical, or professional character and whose compensation is \$2,000 or more per annum.

- (b) Statistics relating to the Government service, to be prepared from the Civil Service Commission's card directory.

The Official Register is published biennially. The law directing its compilation provides that the information concerning each employee in the Government service shall be as of July 1. In order to make the register as useful as possible, this law, during the period in which the register has been compiled by the Bureau of the Census, has been disregarded to the extent that all important changes after that date to the time of going to press have been included, so far as practicable; but as the register can not be issued until more than five months after the date to which the information is supposed to refer, it is, in its present form, even under normal conditions, a very unsatisfactory and incomplete publication. The conditions of the past year have emphasized the necessity for making the recommended changes in the method of publishing the register. Important services of the Government have been organized since July 1, and although

they have been included there have been many changes in their personnel which it has been impossible to record, despite the fact that every effort has been made to do so.

If the material in the register were confined, as has been recommended, to a presentation of the organization of each of the bureaus and independent offices, with a full list of the administrative and supervisory officials, together with tables showing, so far as practicable, the numbers of employees in the various grades and classes, it would convey all the information concerning Government departments and personnel which should be of general interest. The adoption of the plan outlined above would also result in a very considerable reduction in the expense of preparing the Official Register and at the same time would provide for a complete and up-to-date record of the entire personnel of the Government in one central office (the Civil Service Commission), in such form that the Census Bureau would be able, by the aid of its tabulating machinery, quickly and accurately to compile statistics relating to Federal employees when called upon to do so by the President or by Congress.

A bill (H. R. 2354) embodying the desired changes in the scope of the Official Register is now before the House of Representatives, and its enactment into law is strongly urged.

FOREST PRODUCTS.

In my last two reports I recommended the enactment of legislation providing for the annual collection of statistics of forest products. A bill (H. R. 2357) containing a provision of this character is now before the House of Representatives. Statistics of forest products are of more than ordinary importance at this time and should be collected and published regularly.

EXPRESS BUSINESS.

I renew the recommendation contained in my last two annual reports for the repeal of the requirement of a decennial collection of statistics relating to the business of express companies, now contained in the act of June 7, 1906. It would be an unnecessary duplication of work for the Census Bureau to make decennial collections of these statistics, in view of the fact that annual statistics of the same character are collected and published by the Interstate Commerce Commission.

A bill (H. R. 2353) providing for the repeal of the requirement of law in question has been introduced in the House of Representatives.

WEIGHT OF CENSUS MAIL MATTER.

It is important that suitable provision be made for the transportation by mail, both to and from Washington, of the Bureau's supplies used in connection with census inquiries, regardless of the size and weight of the boxes in which they are packed. Although the Bureau's needs in this regard are very much greater during a decennial census than at other times, it is, nevertheless, important that it be authorized at all times to have its mail transported in boxes of suitable and convenient size. To this end, the enactment of H. R. 4449 is recommended.

SPECIAL STATISTICAL COMPILATIONS.

I also renew the recommendation contained in my last two reports to the effect that express, rather than implied, authority be given the Director of the Census to prepare special statistical compilations, as well as to furnish transcripts of tables and other records, for State and local officials and for private concerns and individuals, and that the provision of law conferring this authority be so drawn as to make the amounts received for work of this character actually serviceable to the Bureau instead of only nominally so as at present. The authority under which the Bureau now performs this work is found in section 32 of the Thirteenth Census act. A bill (H. R. 2360) conferring upon the Director of the Census the desired authority has been introduced in the House of Representatives.

OFFICE ROOM AND STORAGE SPACE.

Less than two years will now elapse before the beginning of the Fourteenth Census period (July 1, 1919), and it is imperative that early consideration be given to the matter of providing suitable office accommodations for the Bureau during that period, as well as adequate permanent storage space for its records.

During the Thirteenth Census period (1909-1912) the greater part of the Census Bureau's force occupied two adjoining buildings and the remainder was housed in two other buildings, one of which was nearly a mile from the main office. The total floor space occupied by the Bureau in these four buildings amounted to nearly 200,000 square feet, and the total annual rental was \$40,000 (no rental being charged for the 8,700 square feet of floor space occupied in the Maltby Building). The total floor space, exclusive of halls, toilet rooms, etc., occupied by the Census Bureau in the Commerce Building on June 30, 1917, was approximately 74,000 square feet, of which about 8,000 square feet represented storage space.

In view of the fact that the Bureau during the next decennial census will have a force about seven times as large as at present and will need about 275,000 square feet of space, including storage, the impossibility of accommodating it in the Commerce Building during that period is apparent. It would be unfortunate and expensive to have the force split up into four separate elements, as it was at the last census. It is recommended, therefore, that arrangements be made for the provision of a building suitable for the accommodation of the additional force of the Census Bureau during a decennial census period.

The urgency of this matter can not be too strongly emphasized.

In reference to storage space, the following excerpt from my last report applies with equal force to present conditions:

The matter of storage space for the Bureau's old records is steadily becoming more serious. These records consist in large part of population, agricultural, and manufactures schedules—that is, the returns made by the enumerators—of past censuses. The population schedules constitute substantially complete lists of the inhabitants of the United States at decennial intervals from 1790 to 1910. These schedules—which show not only names and addresses but various other items of information, such as sex, age, marital condition, etc.—are thus of great value to genealogists, applicants for pensions or increases of pensions, litigants in connection with the settlement of estates, and others; and their destruction would mean irreparable loss. At present these schedules are stored in four places—the eighth floor of the Commerce Building; the fireproof vault in the basement; a portion of the basement outside the vault; and the old Armory Building at the corner of Fifteenth and E Streets NW.

One end of the vault is next to the boiler room, and all the steam pipes for one side of the building pass through it. For this reason the temperature—although the windows are left open and the steam kept shut off from the radiators—can not be brought below 90° F. while the heating plant is in operation. It is, therefore, almost impossible for a clerk to work in the vault, and particularly in the end next to the boiler room, for more than a few minutes at a time; and the records are rapidly deteriorating because of the heat.

The old Armory Building is unlighted and is exceedingly damp and moldy. The roof and walls were formerly in a leaky condition, with the result that some of the records stored there were so badly injured by the rain that portions of them were obliterated.

It is highly important that prompt steps be taken to remedy the conditions above set forth.

APPROPRIATIONS AND EXPENDITURES.

FINANCIAL STATEMENT, FISCAL YEAR 1917.

The following financial statement covers the operations of the Census Bureau during the fiscal year ended June 30, 1917:

Administrative:			
Salaries for administrative places.....	\$35,879.00		
Salaries for division of correspondence and mail.....	11,198.63		
Salaries for labor force.....	4,227.95		
Contingent expenses ^a	16,365.82		
			\$67,471.20
Machine shop:			
Salaries.....	17,496.07		
Materials, supplies, etc.....	7,402.77		
			24,898.44
Division of revision and results:			
Supervision.....	6,790.74		
Publications.....	3,789.95		
Dependent, defective, and delinquent classes.....	12,590.01		
Official Register of the United States.....	80.84		
Negroes in the United States.....	11,382.75		
Directory of institutions.....	729.03		
Executive civil service.....	7,181.27		
Editorial and result work.....	23.34		
Miscellaneous.....	4,728.34		
			47,297.20
Division of population:			
Supervision.....	8,922.15		
Occupations.....	30,068.41		
Marriage and divorce.....	1,034.25		
Religious bodies.....	56,808.44		
Preparation for Fourteenth Census.....	2,087.78		
Miscellaneous.....	588.42		
			99,509.45
Division of manufactures:			
Supervision.....	7,870.57		
Quinquennial census of manufactures.....	173,969.24		
Cotton statistics.....	259,036.36		
Tobacco statistics.....	11,393.23		
Transportation by water.....	97,502.66		
Electrical industries.....	237.68		
Shipbuilding.....	303.34		
Edible oils.....	190.79		
			550,512.87
Division of vital statistics:			
Supervision.....	7,169.75		
Mortality statistics.....	110,700.46		
Birth statistics.....	38,012.95		
Life tables.....	2,253.97		
Occupational mortality.....	705.01		
			158,842.14
Division of statistics of cities:			
Supervision.....	7,976.13		
Financial and general statistics.....	82,994.33		
State statistics.....	18,968.91		
			109,939.37
Geographer's division: Salaries.....			30,938.61
Special population census.....			860.81
Salaries of employees detailed to Department of Commerce.....			1,401.60
Printing and binding^a.....			115,971.35
War Department work (registration).....			2,671.72
Liberty Loan work.....			2,720.87
Grand total.....			1,213,036.53

^a Paid from appropriation for Department of Commerce; no separate appropriation for Bureau of the Census.

Title of appropriation.	Appropriation.	Expenditures during fiscal year.
Salaries, Bureau of the Census, 1917.....	\$673,460.00	\$658,243.94
Collecting statistics, Bureau of the Census, 1917.....	512,000.00	397,656.18
Tabulating machines, Bureau of the Census, 1917.....	25,000.00	24,809.44
Contingent expenses, Department of Commerce, 1917 ^a	16,385.62	16,365.62
Printing and binding ^a	115,971.35	115,971.35
Total.....	1,342,796.97	1,213,036.53

^a Paid from appropriation for Department of Commerce; no separate appropriation for Bureau of the Census.

APPROPRIATIONS, FISCAL YEAR 1918.

The Census Bureau's appropriations for the fiscal year 1918 amounted to \$1,383,460. The amount appropriated for salaries was increased from \$673,460 to \$676,460, the change being due to the creation of a new position of chief statistician at \$3,000 per annum.

The appropriation for collecting statistics was increased from \$512,000 to \$647,000. This change is accounted for mainly by the inclusion in the current appropriation of an item for the electrical-industries inquiry, no similar item having been contained in the appropriation for the preceding year, and by increases in the items for the marriage and divorce inquiry and for collection of birth statistics.

The appropriation for experimental work in developing, improving, constructing, and repairing tabulating machines was increased from \$25,000 to \$60,000. Of this amount, \$30,000 will be used to provide for new construction, rebuilding, and overhauling of the types of tabulating machinery now in use by the Census Bureau, in preparation for the work of the Fourteenth Census; and the remaining \$30,000 has been set aside for use in the development of an integrating counter.

Respectfully,

SAM. L. ROGERS,
Director of the Census.

TO HON. WILLIAM C. REDFIELD,
Secretary of Commerce.



ANNUAL REPORT

OF THE

723

DIRECTOR OF THE CENSUS

TO THE

SECRETARY OF COMMERCE

FOR THE

FISCAL YEAR ENDED JUNE 30, 1918



WASHINGTON
GOVERNMENT PRINTING OFFICE

1918

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1918

REPORT

OF THE

DIRECTOR OF THE CENSUS.

DEPARTMENT OF COMMERCE,
BUREAU OF THE CENSUS,
Washington, September 16, 1918.

SIR: There is submitted herewith the following report upon the operations of the Bureau of the Census during the fiscal year ended June 30, 1918, and the work now in progress:

INTRODUCTION.

During the fiscal year the Bureau of the Census completed the compilation and preparation for publication of the final detailed reports of the last quinquennial census of manufactures; carried on its decennial canvasses of water transportation and shipbuilding and of religious bodies, its quinquennial canvass of electrical industries, and its special canvass of marriage and divorce; prepared and published the Official Register of the United States; conducted its regular annual inquiries relating to births, deaths, States, and municipalities; collected and published quarterly statistics of stocks of leaf tobacco; made semimonthly and monthly collections and publications of statistics on cotton, cotton seed, and cottonseed products; completed the preparation of reports on Negroes, deaf-mutes, and prisoners and juvenile delinquents, and of a statistical directory of State institutions for the dependent, defective, and delinquent classes; took a special census of the Virgin Islands; gathered data as to receipts of fresh fish in New York City; inaugurated the publication of weekly mortality reports for certain large cities; performed a considerable amount of war work for other Government establishments; carried on its preparations for the Fourteenth Decennial Census; and complied with numerous requests for information contained in its records.

The work done during the fiscal year and since its close along the various lines above specified is described in the sections headed "Current and completed work on statutory inquiries," "War work," and "Special and miscellaneous lines of work," which follow.

CURRENT AND COMPLETED WORK ON STATUTORY INQUIRIES.

CENSUS OF MANUFACTURES.

The compilation and preparation for publication of the reports of the last quinquennial census of manufactures, taken as of December 31, 1914, were, in the main, completed early in the fiscal year, al-

though considerable detail work in connection with the checking and verifying of proof remained to be done later in the year.

In the case of many of the bulletins which present the final reports of the census of manufactures, copy was sent to the printer at relatively earlier dates than those at which copy for the corresponding bulletins was sent to the printer at the preceding census.

CENSUS OF TRANSPORTATION BY WATER.

Under the act creating the permanent Census Bureau a census of water transportation is taken at decennial intervals. The last inquiry of this character was made as of December 31, 1916. The field work was begun in March, 1917, and was completed in October of the same year. Through cooperation with the Bureau of Foreign and Domestic Commerce, the Customs Service, the Post Office Department, and the American Steamship Association, it was possible to facilitate greatly the work on this inquiry and to keep down its expense. The effort to collect a large proportion of the data by mail, and in some cases by telegraph, was successful, and about 50 per cent of the owners or operators of craft covered by the census were canvassed in this manner before the field force left the office. Although this method necessitated a great amount of correspondence, it materially reduced the expense of the field work and shortened the time required for taking the census.

This census covered also the operations of fishing vessels, which were not canvassed at the last preceding similar inquiry.

During the progress of the field work and after its completion the compilation of the data gathered was carried on as rapidly as possible, and a preliminary statement comprising two tables with descriptive text was prepared in the latter part of January, 1918, and released for the use of afternoon papers on February 6.

The tables and text for the final report have been completed and will be sent to the printer at an early date. This report will cover the operations of 37,894 vessels, classed as steam, sail, and unrigged craft, and will give detailed statistics as to tonnage, value, ownership, employees, wages, amount of business done, etc., for the various classes of craft.

CENSUS OF SHIPBUILDING.

This census, which was taken in conjunction with the water-transportation inquiry and related to the same date—namely, December 31, 1916—covered the operations of 1,377 shipbuilding establishments during the calendar year. It was possible to obtain a large proportion of the reports by correspondence, and the cost of the canvass was thus reduced to a minimum. Statistics for the shipbuilding industry for the year 1914, which were secured at the last census of manufactures, were also included in the report.

For military reasons this report has not been published, but the statistics compiled have enabled the Census Bureau to furnish valuable information of a confidential nature to various war boards.

CENSUS OF ELECTRICAL INDUSTRIES.

This census, which, under the act creating the permanent Census Bureau, has been taken quinquennially since 1902, covers central

electric light and power stations, street and electric railways, telephones and telegraphs, and municipal electric fire-alarm and police-patrol signaling systems. The current inquiry is being made as of December 31, 1917.

By reference to the various records available, supplemented by correspondence with some 14,000 postmasters throughout the country, with State telephone associations, and with public-service commissions, a card index of establishments engaged in electrical industries was prepared. In formulating the schedules used, criticisms and suggestions were requested and obtained from the Interstate Commerce Commission, the American Telephone & Telegraph Co., the independent telephone companies, the American Electric Railway Association, the American Railway Accountants' Association, and the National Electric Light Association, and a number of conferences were held with representatives of these organizations. All the organizations named have given their hearty cooperation and have rendered valuable assistance to the Bureau in the revision of the schedules and the preparation of the reports.

In accordance with the general practice of the Bureau, the data have been collected so far as possible through correspondence. The field canvass, which is being made by employees detailed from the office, was begun on April 9 in Omaha, Nebr., and will be practically completed some time during October.

The necessary detail work of checking the schedules received with the card index, examination, criticism, returning for correction when necessary, editing, and preparation for tabulation has been carried on as rapidly as possible, and the compilation of the reports is now under way. These reports will present information as to number of establishments, character of ownership, traffic, equipment, expenses, employees, salaries and wages, finances, etc.

RELIGIOUS BODIES.

Under the law establishing the permanent Census Bureau the census of religious bodies is taken at decennial intervals. The collection of the data at the last inquiry, which was made as of date December 31, 1916, was substantially completed in March, 1918, except for certain special statistics in regard to ministers, the collection of which was not finished until July, 1918. The work was done almost entirely through correspondence, which method made possible a great saving in expense, but necessarily resulted in somewhat greater delay in obtaining the desired data from certain churches and ministers who did not respond readily or promptly to the Bureau's requests for information.

The tabulation of the data has been in progress for some time. A preliminary report in the form of a press announcement was issued on May 2, 1918, which showed, by principal denominations, the numbers of church organizations, members, ministers, Sunday schools, Sunday-school officers and teachers, and Sunday-school scholars. The final report will present, for each religious denomination, detailed statistics in regard to the subjects dealt with in the press announcement, and in addition will show the value of church property, salaries of ministers, and various other items of information.

The work on this inquiry has been delayed somewhat by the pressure of war work, and in particular by the employment of a considerable force upon the classification of occupations of registrants for the Provost Marshal General.

VITAL STATISTICS.

Death statistics.—Since its organization on a permanent basis in 1902 the Bureau of the Census has been compiling annual reports on mortality, based on data collected from States and cities having adequate death-registration systems. The "registration area" comprising these States and cities, which in 1900 contained only 40.5 per cent of the population of the country, has grown from year to year until at present it embraces 28 States, the Territory of Hawaii, the District of Columbia, and 42 cities in nonregistration States, and contains approximately 73 per cent of the population. The States now included are the six New England States and New York, New Jersey, Pennsylvania, Maryland, Virginia, North Carolina, South Carolina, Ohio, Michigan, Indiana, Kentucky, Tennessee, Wisconsin, Minnesota, Missouri, Kansas, Montana, Colorado, Utah, Washington, Oregon, and California. The most recent additions were the State of Tennessee and the Territory of Hawaii, admitted for 1917, and the State of Oregon, admitted for 1918. The inclusion of Hawaii extended for the first time beyond the limits of continental United States the area for which the Bureau annually collects and publishes mortality statistics. The admission of a State, Territory, or city is made only after a test, the results of which indicate that the deaths occurring are recorded properly under State law or municipal ordinance, and that the registration is at least 90 per cent complete.

A test of the completeness of the death registration in Illinois (outside certain cities whose registration is already accepted by the Census Bureau) was begun in the latter part of August, and if the result is satisfactory, as is expected, the registration area will be further extended and will contain about 76 per cent of the total population of the United States.

The annual mortality report for the calendar year 1916 was completed and the revised proof was returned to the printer during the fiscal year 1918. This report shows, for the registration area as a whole, for States, and for cities of 10,000 or over, the number of deaths, exclusive of stillbirths, by month of occurrence, age, sex, color, nativity and parent nativity, and cause. Death rates per 1,000 population from all causes combined and per 100,000 population from individual causes are also given.

In order that the more important of the mortality statistics for 1917 may be placed in the hands of the public at the earliest possible date, a bulletin presenting certain of the basic tables which will later be included, with very little text discussion, in the final report will be prepared and sent to the printer by the close of the calendar year 1918.

Birth statistics.—Beginning with 1915, the Census Bureau has been collecting annually birth statistics from a registration area composed of those States (and the District of Columbia) having adequate birth-registration systems. This area, which in 1915 comprised only

the six New England States and New York, Pennsylvania, Michigan, Minnesota, and the District of Columbia, with a total population estimated at about 31 per cent of the aggregate for the United States, has grown very rapidly, until at present it embraces the States just named, together with Maryland, Virginia, North Carolina, Ohio, Kentucky, Indiana, Wisconsin, Kansas, Utah, and Washington, making 20 States in all, in addition to the District of Columbia, with a total population representing about 53 per cent of the aggregate for the United States. The completeness of the birth registration in Illinois is now being tested, and if that State measures up to the standard, the total population of the area will be increased to about 59 per cent of the aggregate for the country.

The birth reports show, for the registration area and its subdivisions, the number of births, by sex, month of occurrence, color, and parent nativity of white children; the numbers of births and deaths, with excess of births over deaths and number of births per 100 deaths; the number of births of white children, by country of birth of father and mother; and the number of deaths (exclusive of stillbirths) in the birth-registration area, from important causes, for 12 subdivisions of the first year of life.

The birth-statistics report for 1916 was completed and copy sent to the printer during the fiscal year 1918, and the report for 1917 will be ready for the printer by the close of the calendar year 1918.

International list of causes of death.—During the fiscal year a reprint was made of the Manual of the International List of Causes of Death. The Physicians' Pocket Reference to the International List of Causes of Death was also reprinted, and as soon as the American Medical Directory for 1918 is published a copy of the booklet will be sent to every physician in the United States.

Weekly health index.—On October 6, 1917, the Bureau of the Census inaugurated the publication of a "Weekly Health Index," which gives mortality reports from about 50 of the largest cities in the United States. For each city are given the total number of deaths reported for the week (stillbirths excluded), the death rate, the number of deaths under 1 year of age, and the proportion which infant deaths represent of total deaths. Each Weekly Health Index is issued within 72 hours after the close of the week to which it relates.

FINANCIAL STATISTICS OF CITIES.

Reports on municipal finance have been published annually by the Bureau of the Census since its organization on a permanent basis in 1902. The compilation of the report presenting financial statistics of cities having more than 30,000 inhabitants, for the fiscal year 1917, was completed and copy was sent to the printer in January, 1918, or within less than seven months from the close of the fiscal period covered. The report, which is printed in the form of a 373-page quarto volume, presents statistics in regard to the following subjects, the figures for each city relating to its latest fiscal year ended prior to July 1, 1917: (1) Total and per capita receipts from the various sources of revenue; (2) total and per capita payments for expenses, interest, and outlays, the payments for expenses and outlays being given in detail; (3) total value of city properties; (4) total and per

capita indebtedness; and (5) estimated true value and assessed valuation of property, tax levies, rates, and methods of assessment. In the introduction to the volume are given definitions of terms employed in municipal accounting.

In addition to the classes of statistics just specified, the report gives the numbers, terms of office, method of election, and annual salaries of certain city officials; form of government (mayor and council or commission); if under commission form, date when commission plan became operative, and departments over which each commissioner presides; and a historical sketch of the modern movement toward the commission form of government in American cities.

The field work on the inquiry now in progress, which covers the fiscal year 1918, will be finished by December of this year, and copy for the report will be in the hands of the printer early in 1919.

The statistics on municipal finance are especially useful at the present time, when, because of war conditions and the resultant necessity for retrenchment wherever possible, American cities are obliged to economize to the greatest practicable extent in the conduct of their governmental activities. Any municipal official, member of a civic body, or other citizen desiring to ascertain whether the financial affairs of his city are being conducted efficiently and economically can obtain much useful information by comparing his city with others in regard to such matters as its various classes of revenues and expenditures; its property valuation, tax rates and levies, and method of assessment; and its indebtedness and value of public properties.

GENERAL STATISTICS OF CITIES.

Since the creation of the permanent Census Bureau, in 1902, reports on various phases of municipal governmental activities, other than financial, have been published by the Bureau, at first biennially and later annually. The reports on this group of subjects for the fiscal year 1917 are two in number, namely, "Specified sources of municipal revenue" and "Statistics of fire departments."

The first-named report—copy for which was sent to the printer in December, 1917—presents, for the 219 cities estimated to have more than 30,000 inhabitants, data in regard to certain methods of raising revenues, namely, deriving them from business taxes collected without the issue of licenses, as on gross earnings of insurance companies; from business taxes, other than on the liquor traffic, collected through the issue of licenses; from other license taxes; from special assessments for public improvements, as street paving, sidewalks, and sewer construction; and from assessments for other purposes, as for street cleaning and sprinkling.

The information contained in this report is made available at a most opportune time, when the cities are readjusting their revenue systems so as to distribute the burden of taxation more equitably in regard to both their own needs and the unusual requirements of the National Government because of the state of war now existing. The report is also of special interest to cities which have recently outlawed the liquor traffic or are about to do so, and which, therefore, will be obliged to take under consideration other available methods of raising revenue.

The report giving statistics of fire departments of cities estimated to have more than 30,000 inhabitants in the fiscal year 1917 was sent to the printer in January, 1918. This report presents, in detail, data pertaining to organization, equipment, grades and salaries, special training of firemen, appointments, promotions, pension systems, and other statistics considered to be of interest and value by authorities on this subject.

A report on municipal markets, covering the fiscal year 1918, is now in process of preparation. This report will show the extent of municipal activity in providing market facilities and the use made of these facilities by the citizens. A report of this character should be particularly helpful at this time, when saving in food cost is a necessity for most people and food conservation is a patriotic duty for all. The field work on this inquiry will be completed during the coming December, and copy for the report will go to the printer early in 1919.

FINANCIAL STATISTICS OF STATES.

The report presenting financial statistics for the 48 States of the Union, covering in each case the latest fiscal year terminating prior to July 1, 1917, was completed in April, 1918, and sent to the printer shortly thereafter. This report, which is the third of the series of which it forms a part, is similar in scope to the municipal-finance reports, the general classifications being the same, and the only changes being those made for the purpose of showing data in regard to functions exercised by State governments that are not generally exercised by municipal governments. As pointed out in my former annual report, these reports have proven useful to State officials, and the annual visits of the Bureau's agents to collect the statistics will be influential in bringing about the installation of proper accounting systems, as was the case with the cities of over 30,000.

The report for 1918 will be completed early in 1919.

COTTON AND COTTON SEED.

During the fiscal year ended June 30, 1918, the Bureau of the Census conducted its regular inquiries in regard to cotton and cotton seed. The reports issued comprised 10 relating to cotton ginned to specified dates during the ginning season; 12, published monthly during the year, relating to cotton consumed, imported, exported, and on hand and to active consuming cotton spindles; 12, published monthly during the year, relating to cotton seed received, crushed, and on hand and to cottonseed products manufactured, shipped out, and on hand; an annual bulletin on cotton production and distribution for the season of 1916-17; and a pamphlet giving complete statistics of cotton ginned from the crop of 1917. This pamphlet was distributed in time to be of use in making comparisons between the crop of 1918 and those of previous years.

The periodical reports on cotton ginned, the monthly reports on cotton consumed, etc., and the monthly reports on cotton seed and cottonseed products are issued in the form of post cards, which are mailed to a large number of growers, ginners, manufacturers, dealers, and others interested in the cotton and cottonseed industries. The

annual bulletin presents in detailed form the statistical material contained in the post-card reports for the year preceding, together with data relative to cotton production and consumption in foreign countries and other information concerning the cotton and cottonseed products industries.

STOCKS OF LEAF TOBACCO.

During the fiscal year there were published four reports on leaf tobacco held by certain classes of manufacturers and dealers coming within the scope of the act of Congress approved April 30, 1912. These reports presented data as to leaf tobacco held on July 1 and October 1, 1917, and January 1 and April 1, 1918.

Bulletin 136, entitled "Statistics of Leaf Tobacco," which was prepared and distributed during the fiscal year, presents in comparable form the data collected at the several tobacco inquiries which have been made since the inauguration of the work in October, 1912. In addition to the statistics of leaf tobacco held, the bulletin contains data regarding the production, consumption, imports, and exports of tobacco; the prices obtained for the staple by the growers; the quantities of the several classes of products manufactured therefrom; and the revenue from tobacco collected by the Government of the United States. Statistics are also shown for the world's production of tobacco and the international trade in unmanufactured tobacco. This bulletin, the first of its kind ever issued by the Government, was designed for the purpose of assembling the statistics for the various phases of the tobacco industry published by the several Government bureaus and presenting them in convenient form for ready reference.

WORK PERTAINING TO SPECIAL CLASSES OF THE POPULATION.

The work on the reports specified below has been hampered greatly because of the necessity of employing the Census Bureau's force—which has not been large enough to meet all the demands made upon it—on other work believed to be of more immediate importance. The salient statistical facts derived from the inquiries, however, were first published in the form of bulletins; and the complete reports, which present these facts in greater detail, with text discussions and analyses, have been recently issued.

Deaf-mutes.—The report on deaf-mutes was completed during the fiscal year, and has since been published. This report was submitted in proof to various specialists and others interested in the subject and received high commendation from them.

Negroes.—The preparation of the report on Negroes was completed during the fiscal year, and it will be published in the near future. This report is a compilation in one volume of all the census statistics pertaining to the Negro race which have been collected during the entire period from 1790 to the present time. It includes, in addition to data from the decennial reports, annual mortality statistics relating to Negroes for the years 1900 to 1915. This special report is of unusual statistical value in itself, and in addition contains a great deal of matter which will be useful for comparative purposes in compiling the reports of the next decennial census.

Prisoners and juvenile delinquents.—The final work on this report was done before the close of the fiscal year, and it will soon be published. As in the case of the other reports dealing with special classes, it presents, in addition to the main statistical tables, numerous minor tables bearing on particular phases of the subject, together with detailed text discussion and analysis.

OFFICIAL REGISTER.

Under the present law the Census Bureau compiles biennially the Official Register of the United States, which consists mainly of a directory of Federal employees, showing name, designation, compensation, branch of service in which employed, etc. The issue for July 1, 1917, was prepared during the first half of the fiscal year.

I renew the recommendations for changes in the scope of the Official Register which appear on page 39 of my annual report for the fiscal year 1917 and which were also contained in the reports for the four preceding years. The Official Register in its present form, even under normal conditions, is of relatively slight value; and at a time like the present, when the energies of every member of the Census force are needed on important work—including war work along various lines, and including also the great task of making proper preparations for the Fourteenth Census—it is especially unfortunate that the Bureau should be under the necessity of employing a portion of its force in the compilation of a publication of so little and ephemeral value as the Official Register.

I therefore urge the enactment into law of the bill (H. R. 2354) now pending in the House of Representatives, which embodies the desired changes in the scope of the Official Register. If the enactment of this legislation is not considered advisable, I strongly urge that legislation be enacted directing the suspension of the Register until the conclusion of the war, or until further authorized by Congress.

WAR WORK.

WORK DONE BY THE BUREAU FOR OTHER GOVERNMENT ESTABLISHMENTS.

During the fiscal year the Bureau of the Census performed numerous pieces of work pertaining to the war, some of which required the services of a considerable number of employees, for the War Department and for other Federal departments and establishments. The more important of these pieces of work are set forth below.

Census of materials and commodities for use of war agencies.—In February, 1918, the Secretary of Commerce, at the suggestion of the Director of the Census, offered to utilize, in the performance of the statistical work of the various war agencies, the services of as many as 100 Census employees for 6 months. This offer was accepted by a number of the war agencies—the War Trade Board, the War Industries Board, the Shipping Board, the Food Administration, the Council of National Defense, and the Commercial Economy Board—and on April 8 the work was given specific authorization by the President, who, in addition, wrote the Secretary of Commerce expressing his thorough approval of the project.

The war agencies were particularly desirous to have statistics compiled showing the consumption and stocks on hand of certain raw materials used in war industries, and also the production and stocks on hand of certain of the commodities made therefrom. The materials and products for which the need of information was most urgent were the following:

- Iron and steel.
- Wool machinery and woolen manufactures.
- Kapok fiber, jute, and silk.
- Leather stocks, boots, shoes, and manufactured leather goods.
- Antimony.
- Graphite crucibles.

Questionnaires or schedules covering these commodities were prepared, and at the close of business on August 31, 119,831 had been mailed. Preliminary reports on wool machinery and production therefrom, kapok fiber, jute, leather stocks, and graphite crucibles, have already been compiled and transmitted to the war agencies.

The compilation of data on the other commodities listed above is progressing as rapidly as the returns are received, and considerable work has been done in the study of still others for which statistics are desired.

In connection with the preparations for this inquiry, a survey of the existing sources of statistics of supply, production, and consumption of materials and commodities was made for the purpose of ascertaining what data were being collected by other bureaus or Government agencies, the purpose being to prevent or eliminate any duplication of statistical work. As was anticipated, more or less such duplication was discovered and eliminated. This survey will be continued with a somewhat broader scope during the period of the war by the statistical clearing house organized in connection with the War Industries Board.

I take this occasion to express my opinion that the usefulness of the Bureau of the Census would be materially enhanced if the scope of its work were extended by law so as to make the Bureau a permanent clearing house for all the statistical information issued by the executive branch of the Federal Government. This could be done by having all the executive departments and independent Government establishments submit reports, monthly or quarterly, to the Bureau of the Census describing all statistical data compiled or published during such period. This would enable the Bureau to detect any duplication or overlapping existing in the statistical work of the Government and recommend its elimination. It would also make Federal statistics more easily available to the public and to persons engaged in research work, and would result in bringing about a material saving in expense.

Census of commercial greenhouses.—For the use of the Priorities Division of the War Industries Board, the Bureau gathered data pertaining to commercial greenhouses covering, for the year ended June 30, 1918, area; value of products; fuel, fertilizers, insecticides, and fungicides used; and number of males 18 years of age and over continuously employed.

Censuses of nitric acid and of acids and materials used in the manufacture of explosives.—In September, 1917, in accordance with the

request of the Committee on Chemicals of the Council of National Defense, the Acting Secretary of Commerce authorized the Director of the Census to take a census of the production and capacity of plants engaged in the manufacture of nitric acid; also a census of the production and capacity of establishments manufacturing sulphuric acid and materials used in making acids and explosives, and the distribution of these commodities, which include cannon powder, mobile artillery powder, small-arms powder, trinitrotoluol, picric acid, ammonium nitrate, and military guncotton. The necessary blanks, together with the lists of manufacturers to whom they were to be sent, were prepared in collaboration with the Committee on Chemicals. The blanks were addressed and mailed and the reports received, checked, and acknowledged by the Bureau of the Census, which then transmitted them to the Committee on Chemicals for tabulation. The portion of the work assigned to the Bureau of the Census was completed in November, 1917.

Production of dental gold.—At the request of the Federal Reserve Board, in connection with its war activities, the Secretary of Commerce authorized the Bureau of the Census to make a canvass of the production of dental gold. Accordingly a questionnaire calling for the desired information covering the calendar year 1917 was prepared and mailed to manufacturers of dental goods. Returns were received from and tabulated for 64 establishments, and statements were prepared for the Federal Reserve Board showing the production of dental gold by States, and the amounts and values representing the gross domestic consumption and exportation of this commodity.

Estimates of registrants for Provost Marshal General.—In May, 1917, immediately following the passage of the selective-service law, the Bureau of the Census published an estimate of 10,077,700 as the total number of men 21 to 30 years of age, both inclusive, in the United States. The actual registration on June 5, 1917, was 9,691,344; but if to this number were added approximately 400,000, representing men within the specified ages who were already in the military and naval services and therefore not required to register, the total would be brought very close, indeed, to the estimate.

On June 12, 1918, the Bureau, at the request of the Provost Marshal General, made an estimate of the number of men who had become 21 years of age during the year ended June 5, 1918. This estimate showed a total of 1,011,589 for the entire country. The actual number of registrants on June 5, 1918, plus the number of enlistments of men aged 21, amounted to 953,453; but the greater part of the difference of 58,136 between this number and the estimate is accounted for by a decrease of 45,098 in the number of aliens subject to registration.

On July 30, 1918, at the request of the Provost Marshal General, the Bureau estimated the number of men aged 18 to 20 years, inclusive, and 32 to 45 years, inclusive, in the United States on July 1, 1918. The total given by this estimate was 13,194,408. The registration on September 12 was 12,870,000, to which number should be added approximately 400,000, representing men within the ages specified who were already in the service. The total thus obtained, 13,270,000, differed from the estimate by only a little more than one-half of 1 per cent, thus again confirming the substantial accuracy of the Bureau's figures.

Allocating enlistments for the Office of the Provost Marshal General.—The 117,974 men who enlisted in the Regular Army from April 2 to June 30, 1917, inclusive, represented a portion of the credits to be applied to the gross quotas of the States, the counties, and the cities of 30,000 population and over in the apportionment of the first draft. At the request of the Provost Marshal General these enlistments were allocated by the Bureau of the Census. In addition, the enlistments in the Navy, the Naval Reserve, the National Naval Volunteers, and the Marine Corps from April 2, 1917, to June 30, 1918, which numbered 293,788, were similarly allocated in anticipation of the credit of these volunteer enlistments to the quotas of the various States, as proposed in the bill providing for the second draft, as it passed the House. This provision, however, was rejected by the Senate and was stricken out in conference.

Classification of occupations of registrants for Provost Marshal General's Office.—This work was undertaken at the request of the Provost Marshal General, dated December 21, 1917, that a detachment of skilled workers from the Census Bureau be sent to the War Department to train the clerks who were to be assigned to the preparation of an industrial index of the registrants under the selective-service act. The preparation of this index consisted in the classification, according to occupational skill or experience shown, of cards prepared by the local registration boards from questionnaires filled by registrants. The Census scheme of classification of occupations was used.

Preparatory work was done during the latter part of December and in January, but it was not until the middle of February that the number of cards received at the War Department became sufficiently large to make it feasible to begin the actual work of classification. From that time until July 1, 1918, a period of four and one-half months, a force of experienced Census employees, numbering about 30 during the greater part of the period, was employed, under the direction of the chief statistician for population, in supervising and guiding the work of about 250 clerks employed by the War Department.

The total number of cards received to the end of June, 1918, and classified under the direction of the expert Census force was 8,147,034. In the classification and verification of these cards it was necessary to handle most of them two or three times, so that the total number of handlings of cards, for all purposes, amounted to 23,707,872.

This work in some respects was most complex and could not have been successfully handled by inexperienced employees. The skill and energy displayed by the Census force were greatly appreciated by the Provost Marshal General, who, in a letter dated June 26, 1918, to the Director of the Census, paid a high tribute to the value of the service rendered in the prosecution of this important piece of war work.

Determination of ages of registrants.—Much work was done during the fiscal year in connection with the furnishing of transcripts of ages of persons who failed to register under the selective-service law but were believed to be within the specified age limits. These transcripts were supplied to the Department of Justice, to local registration boards, and to the individuals concerned. Because of the fact that in many instances the men in question had been arrested and

were in jail awaiting the settlement of their cases, it was highly important that this work be done with the utmost promptness. The Bureau has been advised by county officials that as soon as it became generally known that they had access to Census information in regard to ages many men came in voluntarily and registered. The recent extension of the draft ages will cause a great increase in this class of the work.

Liberty Loan work.—In connection with the Liberty Loans made during the fiscal year the Census Bureau rendered aid to the Treasury Department by sending out Liberty Loan literature to various mailing lists.

Work for the United States Fuel Administration.—For the Fuel Administration the Bureau compiled information, based on the data obtained at the last census of manufactures, showing the kinds and quantities of coal consumed by establishments using 100 tons or more per annum, and whether such establishments generated electricity for power. It also supplied the Fuel Administration with a list of cotton ginneries in the State of Georgia, and prepared index cards for use in the compilation of a list of names and addresses of establishments engaged in the manufacture of brick and tile, cement, glass, pottery, lime, and sand-lime brick.

Work for Railroad Wage Commission.—During the months of February and March, 1918, the Census Bureau prepared a large number of tables for the use of the Railroad Wage Commission in connection with the adjustment of the wages of railroad employees by the Federal Railroad Administration.

Miscellaneous war work.—In addition to that above specified, the Census Bureau has performed war work for the American National Red Cross, the Department of Justice, the Council of National Defense, the Housing Committee, the United States Shipping Board, the Emergency Fleet Corporation, the Medical Corps of the War Department, the Federal Trade Commission, the Federal Reserve Board, the United States Geological Survey, the Joint Information Board on Minerals and Derivatives, the Tanners' Council of the United States of America, the National Committee on Prisons and Prison Labor (through the Bureau of Foreign and Domestic Commerce), the Bureau of Education, the War Industries Board, the United States Food Administration, the New York Harbor Wage Adjustment Board of Arbitration, and the Port Facilities Commission.

The total amount of war work done during the fiscal year (exclusive of overtime) was equivalent to the services of 528 employees for one month, or 44 for one year. The total number of members of the Census force engaged on such work on July 1, 1918, was 92, and the number thus engaged on September 1, 1918, was 231.

ENLISTMENTS, CONTRIBUTIONS, RED CROSS WORK, ETC.

Members of Bureau's force enlisted and drafted into military and naval services.—During the fiscal year 47 members of the Census force entered the military and naval services. The total number who have entered those services from the outbreak of the war to September 15, 1918, is 64. Although the Bureau could ill spare the services of some of these men, no request was made to obtain deferred classification because of their Census employment.

Subscriptions for war purposes.—At the beginning of the First Liberty Loan campaign there was organized in the Bureau a "Liberty Loan Bond Club," which receives the semimonthly and monthly payments on bonds taken by the Bureau's employees on the installment plan and turns them over to the banks through which the bonds were purchased. The Bureau's subscriptions to the two loans made during the fiscal year 1918 (the second and third) totaled \$106,750, and the aggregate subscriptions to the first three loans amounted to \$164,800. The proportions of the force which subscribed for the bonds were 77.4 per cent at the first loan, 75.6 per cent at the second, and 89 per cent at the third. Since a large proportion of the Census employees were underpaid as compared with those in other Federal offices, and since at the time subscriptions were made for the third loan those who had bought their second loan bonds had not yet finished paying for them, the percentage of subscriptions to the third loan denotes a most commendable degree of self-sacrifice and a high spirit of patriotism on the part of the Census employees.

The total sales of War Savings Stamps and Thrift Stamps during the fiscal year to members of the Bureau's force amounted to \$8,506. Subscriptions to the Red Cross War Fund during the fiscal year by members of the Bureau's force aggregated \$2,773.

Red Cross Auxiliary.—Of the 11 companies composing the Red Cross Auxiliary organized in the Department of Commerce on June 13, 1918, 8 are made up of Census employees. In all, 275 employees of the Bureau, including contributing members, are represented in the Auxiliary.

SPECIAL AND MISCELLANEOUS LINES OF WORK.

MARRIAGE AND DIVORCE.

Marriage and divorce statistics for the calendar year 1916 have been collected and are now being compiled.

Statistics as to marriage and divorce covering the 40-year period from 1867 to 1906, inclusive, were collected and published, and the Census Bureau had had under contemplation the collection of similar statistics for the 10-year period 1907–1916. The amount of war work which the Bureau has been called upon to do, however, has been so great that it was decided to limit this inquiry to the single year 1916 instead of having it cover the entire decennium 1907–1916.

The canvass has been conducted entirely by correspondence, except that in 11 of the Southern States and in Missouri 142 of the Bureau's local cotton agents were employed in securing divorce reports for counties where the information could not be obtained directly from county officials. Complete statistics as to divorce were secured at the capitals of three States—Nebraska, New Jersey, and Wisconsin—and for the remaining States and the District of Columbia the information was obtained through the offices of the county and court clerks. In the case of the marriage statistics the information for 27 States was obtained from the State capitals or from printed reports, and for the remaining States the data were obtained through the county or court clerks or officials having custody of the marriage records. This method of conducting the canvass made possible a

considerable saving in expense, although naturally somewhat greater delay resulted in the cases of certain counties than would have occurred if agents had been sent into the field to collect the statistics. Substantially all the returns had been received by the close of the fiscal year 1918.

The preparation of the report had been in progress for some time prior to the termination of the canvass and is now near completion. The report will show, among other things, by counties, the number of marriages performed and the number of divorces granted during 1916, with detailed statistics for divorce, covering such matters as cause of divorce, party to whom granted, whether contested, place of marriage, whether alimony was asked and whether granted, and the extent to which children were affected by the decree.

CENSUS OF THE VIRGIN ISLANDS.

At the request of the Secretary of the Navy, the Director of the Census was instructed by the Secretary of Commerce, on October 1, 1917, to take a census of the Virgin Islands. This census, which was taken as of date November 1, 1917, covered population, agriculture, manufactures, fisheries, and wages and hours of labor. The work was done under the supervision of the chief statistician for manufactures, assisted by six other employees of the Department of Commerce, but the actual enumeration was made mainly by local employees.

Because of difficulty in securing transportation facilities, the representatives of the Bureau of the Census who were to supervise the work did not arrive at their destination until December 17. A conference was held with representatives of the naval government of the islands, at which the general plan and organization of the census were discussed. It was decided to utilize school-teachers in canvassing the towns, while local officials and owners of estates were relied upon to do the work in rural districts. The actual work of enumeration began on December 24 and was completed on January 12, and the census commission returned to the United States on the steamer leaving St. Thomas January 14.

The various sections of the report, with introduction and comprehensive appendixes, were prepared; the final proof was returned to the Government Printing Office, approved for printing, on July 9, 1918; and printed copies were received from the Printing Office on August 27.

UNITED STATES LIFE TABLES.

As shown in previous reports, the Bureau of the Census compiled a series of "life tables" based on the population in 1910 and the mortality in the three years 1909, 1910, and 1911 for the six New England States and New York, New Jersey, Indiana, Michigan, and the District of Columbia. These tables, which were published in June, 1916, are similar to those prepared by life insurance companies, but differ from the latter in that they relate to the entire population of the area covered instead of being limited to risks selected through medical examination or otherwise. The preparation of a similar series of tables exhibiting mortality conditions in 1890 and 1901

and during the decennium 1901 to 1910, inclusive, has been nearly completed, and the copy will be sent to the printer before the close of the present calendar year. The report presenting these tables will contain the original data on which they were based, together with an explanation of the methods employed in computing them; and in connection with certain tables there will be given commutation columns and data as to annuities and single and annual premiums at various rates of interest.

The preparation of these tables has been made subsidiary to the regular work of the Census Bureau, for which reason it has not been possible to complete and publish them sooner. Their value, however, is permanent, not ephemeral, and therefore will not be impaired in any material degree by the delay in their publication.

STATISTICAL DIRECTORY OF STATE INSTITUTIONS.

During the fiscal year the Bureau completed the compilation of the statistical directory of State institutions for the dependent, defective, and delinquent classes, of which mention was made in my former report, and copy for which has been sent to the Printing Office since the close of the year. This publication will show for each institution the number of inmates; cost of maintenance; value of plant; acreage of grounds or land; numbers of officials, assistants, and employees; and other data. The classes of institutions covered include State prisons and penitentiaries and State institutions for the insane, feeble-minded, epileptic, tuberculous, blind, deaf, and dependent. In addition to the data for the individual institutions the report presents general statistics for the States and summaries, with maps showing the location of the institutions, etc.

SEARCHING OF CENSUS RECORDS TO DETERMINE AGES.

During the fiscal year 5,043 searches were made of Census records to determine ages of pensioners. In addition, a great amount of work was done in searching the records to establish the ages of men who failed to register for military service.

FISHERIES OF NEW YORK CITY.

On August 23, 1917, the Director of the Census was authorized by the Secretary of Commerce to make a tentative collection of fisheries statistics for New York City covering the period from September 1 to December 31, 1917, the purpose being to determine the feasibility of making the inquiry a permanent one. The details of the method to be employed in doing the work were arranged by the Bureau of the Census and the Bureau of Fisheries. It was agreed that the reports should be collected by an agent of the Bureau of the Census and mailed directly to the Bureau of Fisheries for tabulation. An employee of the Census Bureau was therefore delegated to do the field work, and he proceeded to New York City and entered on duty September 1, 1917.

The data collected comprised (1) landings of fresh fish by American fishing vessels and boats, and (2) receipts of fresh fish by rail and steamer.

At the request of the Bureau of Fisheries the detail of the Census employee performing this work was extended until January 31, 1918, when it was decided to discontinue the undertaking.

TABULATION OF DATA FOR DISPUTED AREAS OF EUROPE AND AFRICA.

In the latter part of the fiscal year the Bureau, upon authorization of the Secretary of Commerce, began the tabulation of data taken from foreign censuses covering the disputed areas of Europe and Africa; that is, those areas whose final disposition will be determined by the outcome of the war. The data are obtained from foreign census reports, statistical yearbooks, official trade reports, and such other sources as are available.

PREPARATIONS FOR THE FOURTEENTH CENSUS.

In my last report I set forth the urgent need of making adequate preparations for the Fourteenth Census in order that the undertaking might be carried through without the delay and waste which would inevitably result from an eleventh-hour rush to make a start in the actual work under the handicap of a somewhat indefinite plan of campaign. I also outlined briefly the preparatory work which had already been done. The first task to which the Bureau set itself in this connection was a careful and detailed study of the act providing for the Thirteenth and subsequent decennial censuses, with a view to determining what amendments or changes were needed to meet the conditions under which the Fourteenth Census will be taken. After thorough consideration it was decided to recommend to Congress the enactment of an entirely new law, differing from the Thirteenth Census act in many details, but containing no radical changes. Such a bill was drafted and submitted to the House Committee on the Census, which held a series of hearings upon it during the period from February 20 to April 10, 1918. After the Director and other Census officials had been heard, the Secretary of Commerce, the Secretary of Agriculture, and representatives of the Bureau of Mines, the Geological Survey, and the Food Administration were called upon to express their views. On July 2, 1918, the House passed the bill with a few amendments of a minor character, and it is now pending in the Senate.

I can not too strongly emphasize the importance of promptly enacting this bill into law. If further action upon it should be deferred until the next session of Congress, which will be a short one, there is a considerable probability that it will not be passed at all by the present Congress, in which event there would be grave danger that the Census Bureau would find itself at the beginning of the Fourteenth Census period (July 1, 1919) without the full and definite knowledge which it should have as to the legal authority and requirements under which it must perform the great task of inventorying the population and industries of the United States. In certain respects the Bureau can not plan efficiently and intelligently for the coming census until it knows exactly what these legal requirements are to be.

The division of agriculture, which had gone out of existence at the close of the Thirteenth Census period, was reorganized and placed

under the charge of a chief statistician. During the fiscal year the major part of the work performed by this division consisted in preparations for the Fourteenth Census. During the week of August 20, 1917, a conference of the leading authorities on agriculture was held at the Bureau for the purpose of preparing a tentative schedule for the next census of agriculture. The schedule agreed upon was completed and printed during the month of December, and approximately 35,000 copies were mailed to county agents and township correspondents of the Department of Agriculture for distribution to farmers. More than 18,000 of these preliminary schedules, representing farms located in every county of the United States, had been returned to the Census Bureau up to September 1. Nearly all the schedules returned contained valuable information, and they were sorted, classified, and tabulated. The results obtained have been placed at the disposal of the Bureau of Crop Estimates of the Department of Agriculture, and will also be of service to the Office of Farm Management, the Bureau of Animal Industry, the Bureau of Markets, and the Bureau of Plant Industry.

Beginning on December 19, 1917, a conference was held at the Bureau of the Census for the purpose of discussing the irrigation inquiry which it is proposed to include in the Fourteenth Decennial Census, and preparing a schedule for use at that inquiry. This conference was attended by official representatives of the Departments of Agriculture and of the Interior and by representatives of several State universities. Photostat copies of the form of schedule adopted at this conference were sent to the irrigation economist for the Office of Public Roads and Rural Engineering of the Department of Agriculture for the purpose of making a test in several of the Western States. After the schedules have been filled by owners or operators of irrigation enterprises they will be forwarded to the Census Bureau for examination, criticism, and tabulation.

Beginning February 19, 1918, a conference was held at the Bureau, at which was discussed the drainage inquiry that it is planned to incorporate in the Fourteenth Census. This conference was attended by official representatives of the Departments of Agriculture and of War, representatives from several State universities, and a small number of leading engineers of the United States. The tentative schedule agreed upon has been prepared, but has not yet been printed.

There remains to be done much more preliminary Fourteenth Census work on agriculture, including studies concerning farm tenure, mortgage indebtedness, live stock, irrigation, drainage, special crops, and certain other special subjects; and in addition there is a vast amount of detail work in connection with the preparation and printing of schedules, tabulation sheets, etc.

It is the Census Bureau's plan, so far as the size of its force will permit, to have everything completed that can be completed before the beginning of the actual enumeration. However, the large amount of war work which the Bureau is being called upon to perform is necessarily interfering to some extent with these preparations.

PUBLICATIONS ISSUED.

Following is a list of the publications issued during the fiscal year and since its close. In addition, the Bureau has published a number of press summaries.

Class and title.	Date issued.	Pages.	Edition.
JULY 1, 1917, TO JUNE 30, 1918.			
Reports (cloth bound and of quarto size except as otherwise indicated):			
Birth statistics for the registration area of the United States: 1915 (paper).....	Aug. 7, 1917	78	5,000
General statistics of cities: 1916.....	Aug. 18, 1917	88	6,000
Financial statistics of cities: 1916.....	Sept. 22, 1917	375	6,500
Financial statistics of States: 1916.....	Sept. 4, 1917	127	3,500
Total.....		668	21,000
Bulletins (quarto):			
No. 135—Cotton production and distribution, season of 1916-17.....	Feb. 27, 1918	141	45,000
Census of manufactures, taken as of Dec. 31, 1914—			
<i>States—</i>			
Alabama.....	Sept. 22, 1917	29	1,300
Arizona.....	Oct. 27, 1917	15	700
California.....	July 25, 1917	63	2,600
Colorado.....	Oct. 12, 1917	29	1,400
Connecticut.....	Aug. 23, 1917	45	1,700
Delaware.....	Sept. 11, 1917	19	700
District of Columbia.....	Aug. 10, 1917	13	600
Florida.....	July 23, 1917	21	1,000
Illinois.....	Oct. 30, 1917	65	4,000
Iowa.....	Oct. 8, 1917	33	2,000
Kansas.....	Oct. 15, 1917	29	1,800
Kentucky.....	Aug. 20, 1917	27	1,200
Maine.....	Aug. 20, 1917	29	1,300
Maryland.....	Nov. 15, 1917	37	1,500
Massachusetts.....	Nov. 20, 1917	79	3,700
Michigan.....	Feb. 21, 1918	53	2,900
Minnesota.....	July 25, 1917	41	2,200
Missouri.....	Aug. 22, 1917	43	2,600
Montana.....	July 23, 1917	17	1,000
Nebraska.....do.....	23	1,500
New Hampshire.....	Aug. 23, 1917	27	1,000
New Jersey.....	May 11, 1918	59	2,000
New Mexico.....	July 23, 1917	11	800
New York.....	May 10, 1918	147	6,500
North Dakota.....	Aug. 28, 1917	15	1,000
Ohio.....	Dec. 14, 1917	81	4,500
Oklahoma.....	Oct. 6, 1917	23	1,400
Pennsylvania.....	Dec. 14, 1917	67	6,500
South Carolina.....	July 23, 1917	21	1,100
Tennessee.....do.....	31	1,500
Texas.....	Sept. 25, 1917	35	2,500
Virginia.....	Aug. 22, 1917	33	1,600
Washington.....	July 11, 1917	33	1,600
Wisconsin.....	Sept. 5, 1917	39	2,600
Total.....		1,362	71,000
Industries—			
Agricultural implements.....	Oct. 11, 1917	12	1,700
Automobiles, including bodies and parts.....	Oct. 15, 1917	19	2,500
Brass, bronze, and copper products.....	Nov. 20, 1917	11	2,200
Butter, cheese, and condensed milk.....	Aug. 31, 1917	23	5,250
Buttons, manufacture of.....	Nov. 15, 1917	9	1,700
Canning and preserving.....	Nov. 14, 1917	31	2,800
Carriages and wagons.....	Feb. 28, 1918	17	2,200
Cast-iron pipe.....	Dec. 8, 1917	7	1,300
Chemicals.....	Apr. 23, 1918	85	3,300
Clothing, manufacture of.....do.....	22	8,500
Cotton manufactures.....	Feb. 12, 1918	33	3,000
Electrical machinery, apparatus, and supplies.....	Oct. 6, 1917	18	2,700
Engines and machinery.....	Oct. 19, 1917	8	2,000
Gas, manufacture of.....	Oct. 9, 1917	25	2,400
Glucose and starch industry.....	Aug. 20, 1917	9	1,300
Hosiery and knit goods.....	Feb. 12, 1918	29	2,500
Iron and steel.....	Dec. 10, 1917	68	2,200
Leather industry.....	Apr. 23, 1918	33	3,200
Motorcycles, bicycles, and parts.....	Oct. 11, 1917	8	1,200
Musical instruments.....	Feb. 28, 1918	21	2,000
Needles and pins and hooks and eyes.....	Oct. 1, 1917	8	1,100

Class and title.	Date issued.	Pages.	Edition.
JULY 1, 1917, TO JUNE 30, 1918—continued.			
Bulletins (quarto)—Continued.			
Census of manufactures taken as of Dec. 31, 1914—Continued.			
Industries—Continued.			
Oil, lard and linoleum.	Aug. 20, 1917	8	1,000
Patent and proprietary medicines and compounds, and druggists' preparations.	May 1, 1918	18	1,700
Petroleum, refining.	Feb. 15, 1918	13	1,600
Printing and publishing.	Mar. 4, 1918	49	7,200
Rubber industry.	Feb. 12, 1918	15	1,700
Silk industry.	Nov. 14, 1917	24	2,200
Slaughtering and meat packing.	Jan. 23, 1918	25	3,750
Soap industry.	July 11, 1917	11	1,600
Steam and electric cars and railroad repair shops.	Feb. 21, 1918	23	2,500
Sugar industry.	July 2, 1917	13	1,300
Textiles, including cordage and twine; jute goods and linen goods; flax and hemp, dressed; fur-felt hats; dyeing and finishing textiles; haircloth; mats and matting.	Nov. 27, 1917	27	1,800
Turpentine and rosin.	July 11, 1917	10	1,300
Wool manufactures.	Apr. 23, 1918	48	2,200
Total.		810	84,600
Miscellaneous publications:			
Legislation relating to Bureau of the Census.	Aug. 20, 1917	71	100
Annual report of the Director of the Census to the Secretary of Commerce, fiscal year 1917 (octavo).	Nov. 9, 1917	44	2,500
Physicians' pocket reference to the international list of causes of death (fourth edition) (2½ by 6 inches).	June 4, 1918	28	200,000
Thirty-two reports, in card form, relating to cotton and cotton seed.	July 14, 1917 to June 19, 1918	32	1,280,000
Four reports, in card form, relating to stocks of leaf tobacco.	July 30, 1917 to Apr. 29, 1918	4	76,000
Total.		179	1,558,600
Grand total, July 1, 1917, to June 30, 1918.		3,163	1,780,500
JULY 1 TO AUGUST 31, 1918.			
Reports (cloth bound and quarto size except as otherwise indicated):			
Statistics of fire departments of cities having a population of over 30,000 (paper).	Aug. 13, 1918	105	6,000
Census of the Virgin Islands of the United States: November 1, 1917 (cloth and paper).	Aug. 27, 1918	147	4,000
Deaf-mutes in the United States: 1910.	July 5, 1918	221	2,000
Total.		473	12,000
Bulletin No. 135—Stocks of leaf tobacco.	July 17, 1918	44	20,000
Miscellaneous publications:			
Manual of the international list of causes of death (third reprint, revised) (octavo).	July 13, 1918	309	600
Advance tables of cotton production in the United States—crop of 1917 (quarto).	July 27, 1918	40	42,000
Total.		349	42,600
Grand total, July 1 to Aug. 31, 1918.		866	74,500

MECHANICAL EQUIPMENT.

WORK IN MECHANICAL LABORATORY.

In addition to the maintenance of tabulating machinery for current use in the Census Bureau and the Bureau of Immigration, the Mechanical Laboratory was engaged during the fiscal year in the overhauling and new construction of machinery to be employed in the tabulation of the Fourteenth Census reports. This includes the construction of 25 new-model tabulating machines, complete, and of 5 extra bases, with full complement of counters; the rebuilding of 2

and the overhauling of 17 card-sorting machines; and the overhauling of 5 card-counting machines.

The new automatic tabulating machine, which was completed toward the close of the fiscal year 1917, was given a practical test in connection with the work of tabulating mortality data and was found to be entirely satisfactory in every respect and a great improvement over the machine used at the Thirteenth Census. This improved machine has been used as a model in the construction of the 25 tabulating machines mentioned above.

The present plans call for the completion of all parts entering into the construction of the equipment specified above before the expiration of the present fiscal year. In addition, it is planned, if the size of the force will permit, to expedite the assembling of these parts into complete machines.

The completion, on time, of the work to be done in the Mechanical Laboratory in preparation for the Fourteenth Census work will depend, in some degree, upon the acquisition and retention of skilled help. There appear to be no difficulties of a mechanical or technical character which can not be surmounted in time to make possible the complete equipment of the Bureau with the special and greatly improved machinery to be used in the tabulation of the Fourteenth Census statistics; but the difficulty in securing and retaining skilled help, owing to the increasing demand and higher rates of pay prevailing in manufacturing establishments outside, presents a serious problem.

INTEGRATING COUNTER.

In my former report I referred to the commencement of work on the development of an "integrating counter"—that is, a counter which will record and add numbers, instead of mere units, thus performing automatically the work done by the operator of an adding machine—for use in tabulating certain classes of the census data, such as those pertaining to agriculture and manufactures. This machine, like the unit-tabulating machine already in use, will work from punched cards which will be automatically fed into it. The numbers, indicated on the cards by the positions of the punched holes, will be automatically totalized precisely as a number is carried into the total by an adding machine when the proper lever or bar is depressed. Two or three sets of figures can be totalized at the same time.

Work was begun on the development of the integrating counter in the Census Bureau on July 6, 1917. In order not to interfere with the construction, overhauling, and rebuilding of the Bureau's regular tabulating equipment, it was necessary to organize a new force for work on the integrating counter and to purchase equipment for the building of the model. This has been done, and the work to date has shown good progress. The idea of the first model integrating counter has been developed and all drawings made; the patent situation has been carefully studied; and patterns, castings, and practically all parts have been made and are ready for assembling. The most difficult features of the work were undertaken first and have been completed, and the preliminary tests have shown satisfactory results.

OFFICE FORCE.

The appropriation act for the current fiscal year provided for 609 permanent officials and employees of the Census Bureau, representing an increase of 46 as compared with the preceding year. At the same time the numbers of positions in the various salary classes were readjusted so as to provide a somewhat better average salary scale than the Bureau has had heretofore. This readjustment will, it is hoped, diminish the tendency of the Census employees to seek more lucrative employment elsewhere, although the salary scale is still unduly low as compared with those existing in many other branches of the Federal Government. During the fiscal year 1918 there were 90 resignations from the Bureau's force, of which number only 20 were for the purpose of transfer to other positions in the classified civil service.

The greatest difficulty now experienced in connection with the personnel is in inducing eligibles on the civil-service registers to accept employment at the entrance salary of \$900. During the 14-month period from July 1, 1917, to August 31, 1918, inclusive, offers of appointment were tendered to 569 eligibles on the stenographer and typewriter, clerk, and other registers of the Civil Service Commission. Of these eligibles, 299 declined, 79 failed to reply, and 191—only one-third of the total number—accepted appointment.

The following statement shows the nature and distribution of the office and field forces on August 31, 1918:

OFFICIALS.

Director	SAM. L. ROGERS.
Chief clerk	THOMAS J. FITZGERALD.
Chief statisticians:	
Population	WILLIAM C. HUNT.
Statistics of cities	STARKER M. GREGAN.
Manufactures	EDGENE F. HARTLEY.
Vital statistics	WILLIAM H. DAVIS.
Agriculture, cotton and tobacco	WILLIAM L. AUSTIN.
Expert special agent in charge of revision and results	JOSEPH A. HILL.
Geographer	CHARLES S. SLOANE.
Expert chiefs of divisions:	
Administrative	TIMOTHY F. MURPHY.
Population	WILLIAM H. JARVIS.
Statistics of cities	EDWARD W. KOCH.
Manufactures	LEMOUEL A. CARRUTHERS.
	JOHN F. DALY.
Vital statistics	EDWARD B. WHITE.
Cotton and tobacco	JOHN B. MITCHELL.
Revision and results	WESLEY E. CHILLEY.
Chief, mechanical laboratory	HARRY H. PIERCE.
	E. M. LABOITEAUX.

CLERICAL FORCE.

Stenographer, \$1,500	1	Clerks—Continued.	
Clerks:		\$1,000	90
Class 4	20	\$900	81
Class 3	30		
Class 2	65	Total	572
Class 1	285		

SUBCLERICAL FORCE.

Skilled laborers:		Assistant messengers, \$720	5
\$900	3	Messenger boys, \$480	4
\$720	1		
Unskilled laborers, \$720	4	Total	20
Messengers, \$840	3		

MECHANICAL-LABORATORY FORCE.

Expert, \$2,200-----	1	Tabulating mechanicians, \$1,400-----	2
Expert, \$2,000-----	1	Tabulating mechanician, \$1,200-----	1
Experts, \$1,800-----	2	Pressman and machinist, \$1,00-----	1
Mechanician, \$1,600-----	1	General mechanic, \$1,000-----	1
Mechanical draftsman, \$1,600-----	1	Apprentices, \$800 (temporary)-----	4
Toolmaker, \$1,600-----	1		
Electrician, \$1,400-----	1	Total-----	17

SPECIAL AGENT FORCE.

Special agents for general field work, etc----- 68

SUMMARY.

Officials-----	19	Mechanical-laboratory force-----	17
Clerical force-----	572	Special agents-----	56
Subclerical force-----	20	Total-----	684

In addition, there are employed throughout the cotton belt 701 local special agents to collect statistics of cotton and cotton seed. These agents perform their work only at intervals and are paid on a piece-price basis.

OFFICE ROOM AND STORAGE SPACE.

The beginning of the Fourteenth Census period (July 1, 1919) is now considerably less than a year distant, and the matter of providing adequate office accommodations for the Bureau during that period, as well as proper storage space for its permanent records, is one the importance and seriousness of which can not be overemphasized.

During the Thirteenth Census period (1909-1912) the Census Bureau's force was housed in no fewer than four buildings, one of which adjoined the main office, while the others were located at some little distance, one of them being nearly a mile away. The total floor space then occupied was approximately 200,000 square feet, for which an annual rental of \$40,000 was paid (no rental being charged for the 8,700 square feet occupied in the Maltby Building).

Even had the growth in the country's population and industries since the last census been but a normal one, the coming census would necessarily be a somewhat greater undertaking than the preceding one; but the abnormal changes which have taken place as a result of the war, especially in our manufacturing industries, will still further increase the complexity of the task. Naturally, therefore, the Bureau will need a greater amount of floor space than it had at the Thirteenth Census. Moreover, the necessity for storage space for such of the Census records as have permanent value is increasing rapidly from year to year, and with the great increase in the amount of such records at the next decennial census the needs will become acute. The old population schedules contain information of great value to genealogists, applicants for pensions, litigants, and others, and at present the data they afford as to dates of births of registrants for military service are of incalculable value in many cases where no birth records are available. It is obvious, therefore, that the destruction or serious injury of these old schedules would cause irreparable loss. Notwithstanding this, they are stored under conditions which tend to bring about their rapid deterioration.

It is estimated that during the next decennial census period the Bureau (whose force will then be between six and seven times as large as at present) will need about 275,000 square feet of space, including storage. Since the total floor space occupied by it in the Commerce Building on June 30, 1918 (exclusive of halls, toilet rooms, etc.), amounted to only 78,386 square feet, of which about 8,000 square feet represented storage space, and since there is practically no more room in the Commerce Building available for the use of the Bureau, the absolute necessity of finding other quarters for the greatly increased Census force during the Fourteenth Census period is apparent. It is highly undesirable to have the force scattered as it was during the Thirteenth Census. It is to be hoped, of course, that the war will have come to an end before the beginning of the next census period, in which event it may be possible to accommodate the extra force in some of the temporary buildings erected for the use of the two military departments and for the various special war agencies which have been created, thus bringing about a material saving in cost as compared with the previous census period. However, it is by no means safe to count upon this contingency as a certainty, because it is not at all likely that these buildings will be vacated immediately after the close of the war. In order that preparations may be made for sending out the enormous quantities of schedules and other supplies to the supervisors in charge of the field work a reasonable length of time in advance of January 1, 1920, the proposed date as of which the enumeration will be made, it will be necessary for a part of the Census force to move into other quarters several months in advance of that time—perhaps in September or October, 1919.

It is believed, therefore, that prompt steps should be taken looking toward the provision of a suitable building for housing the temporary Fourteenth Census force.

APPROPRIATIONS AND EXPENDITURES.

FINANCIAL STATEMENT, FISCAL YEAR 1918.

The following financial statement covers the operations of the Bureau of the Census during the fiscal year ended June 30, 1918:

Administrative:

Salaries—

Administrative and general-----	\$20, 675. 18
Accounts and time-----	5, 045. 27
Appointments-----	8, 559. 87
Correspondence and distribution-----	8, 076. 76
Editorial-----	2, 726. 50
Mail-----	1, 459. 12
Photos at-----	1, 156. 86
Labor force-----	2, 932. 88
Contingent expenses *-----	16, 966. 28

\$68, 108. 22

Machine shop:

Salaries-----	24, 685. 23
Materials, supplies, etc-----	13, 571. 34

38, 206. 57

Division of revision and results:

Supervision-----	5, 856. 27
Dependent, defective, and delinquent classes-----	8, 920. 81
Publications-----	4, 162. 83
Official Register of the United States-----	5, 012. 21
Negroes in the United States-----	2, 801. 71
Directory of institutions-----	3, 380. 36
Executive civil service-----	4, 205. 18
Preparations for Fourteenth Census-----	258. 50
Miscellaneous-----	8, 254. 52

37, 837. 45

* Paid from appropriation for Department of Commerce; no separate appropriation for Bureau of the Census.

Division of population:		
Supervision	\$9,567.72	
Occupations	2,255.12	
Marriage and divorce	21,314.10	
Religious bodies	113,265.83	
Preparations for Fourteenth Census	5,324.82	
Miscellaneous	580.31	
		\$152,307.46
Division of manufactures:		
Supervision	11,048.90	
Census of manufactures for 1914	29,753.64	
Water transportation	86,039.39	
Electrical industries	92,203.08	
Shipbuilding	2,633.66	
Fisheries of New York City	1,267.83	
Preparations for Fourteenth Census	13,755.57	
		230,712.97
Geographer's division:		
Supervision	\$3,684.32	
Drafting	3,608.03	
Ages of pensioners and others	18,005.50	
Miscellaneous	8,895.97	
		34,253.82
Division of vital statistics:		
Supervision	7,192.88	
Mortality	91,172.23	
Births	70,422.58	
Life tables	2,230.55	
Miscellaneous	265.00	
		171,283.70
Division of statistics of States and cities:		
Supervision	8,107.86	
Financial and general statistics	79,074.83	
State statistics	17,368.33	
		104,551.02
Division of agriculture:		
Supervision	4,040.36	
Preparations for Fourteenth Census	14,122.71	
		18,163.07
Division of cotton and tobacco statistics:		
Supervision	5,291.38	
Cotton	252,307.38	
Tobacco	12,132.31	
Edible oils	70.74	
		269,801.81
Preparations for Fourteenth Census, general		427.68
Special census of Virgin Islands		3,754.75
Salaries of employees detailed to Department of Commerce		1,226.66
Printing and binding "a"		96,487.31
War work:		
Registration	8,618.60	
Occupations of registrants	14,700.57	
Liberty Loans	6,601.53	
Housing Committee	1,171.08	
Railway wage scale	1,405.35	
War commodities and materials	11,484.20	
Manufacturing establishments using 100 tons or more of coal	3,033.86	
Miscellaneous war work	374.21	
		47,406.06
Grand total		1,283,618.55

Title of appropriation.	Appropriation.	Expenditures during fiscal year.
Salaries, Bureau of the Census, 1918.	\$676,460.00	\$652,914.74
Collecting statistics, Bureau of the Census, 1918.	647,000.00	643,101.41
Tabulating machines, Bureau of the Census, 1918.	60,000.00	37,165.41
Increase of compensation, Department of Commerce, 1918.	42,983.40	42,983.40
Contingent expenses, Department of Commerce, 1918.	16,866.28	16,166.28
Printing and binding, 1918.	96,487.31	96,487.31
Total.	1,539,896.99	1,283,618.55

^a Paid from appropriation for Department of Commerce; no separate appropriation for the Bureau of the Census.

^b The expenditures during the fiscal year for "collecting statistics" amounted to about \$210,000 less than the appropriation for that purpose. This resulted in large measure from the fact that the estimate on which the appropriation for collecting statistics was based included items for both decennial and annual statistics of marriage and divorce, whereas only an annual inquiry was made. It was the original intention to have the decennial inquiry cover the entire 10-year period 1907-1916 and to make the annual inquiry for the remainder year 1917. Later, however, because of the large amount of war work which the Census Bureau has been called upon to do, it was decided to drop the decennial inquiry but to make an annual inquiry for 1916.

APPROPRIATIONS, FISCAL YEAR 1919.

The Census Bureau's appropriations for the fiscal year 1919 aggregated \$1,349,240, as against \$1,383,460 for the preceding year.

The amount appropriated for salaries was increased from \$676,460 to \$739,240 in order to provide for 46 new statutory positions and for the readjustment of the salary scale so as to bring it more nearly into conformity with those for other branches of the Federal service.

The appropriation for collecting statistics was reduced from \$647,000 to \$490,000. This reduction was the net result of a number of changes, the most important of which were (a) the omission from the 1919 appropriation of items corresponding to those contained in the 1918 appropriation for statistics of marriage and divorce, lumber and timber products, and water transportation, and (b) increases in the items for statistics of electrical industries and preliminary Fourteenth Census work.

The appropriation for constructing tabulating machinery and for experimental work in developing an integrating counter remained unchanged at \$60,000; but a new item of \$60,000 was included in the current appropriation for the construction, purchase, rental, or repair of card-punching machines for use in compiling the results of the Fourteenth Census.

Respectfully,

SAM. L. ROGERS,
Director of the Census.

To Hon. WILLIAM C. REDFIELD,
Secretary of Commerce.

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ANNUAL REPORT

751

OF THE

DIRECTOR OF THE CENSUS

TO THE

SECRETARY OF COMMERCE

FOR THE

FISCAL YEAR ENDED JUNE 30, 1919



WASHINGTON
GOVERNMENT PRINTING OFFICE
1919

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REPORT
OF THE
DIRECTOR OF THE CENSUS.

DEPARTMENT OF COMMERCE,
BUREAU OF THE CENSUS,
Washington, September 15, 1919.

SIR: There is submitted herewith the following report upon the operations of the Bureau of the Census during the fiscal year ended June 30, 1919, and the work now in progress:

INTRODUCTION.

The end of the fiscal year 1919 marked the close of the seven-year intercensal period during which the Bureau of the Census carried on numerous lines of statistical work at decennial, quinquennial, biennial, annual, quarterly, monthly, and semimonthly intervals, as prescribed by law; and on July 1, 1919, began the three-year decennial census period, within which time censuses of the population, agriculture, manufactures, mines and quarries, oil and gas wells, and forestry and forest products of the United States must be taken, compiled, and published.

One of the prime considerations which Congress had in mind in establishing the permanent Bureau in 1902 was the retention of a nucleus of trained officials and employees who could make their preparations for each decennial census in the light of the experience gained at preceding ones and whose familiarity with the work would be of incalculable value in supervising the collection and compilation of the census data. During the intercensal periods, however, the manifold duties of the Bureau fully justify its existence as a permanent organization.

During the fiscal year 1919 the Bureau of the Census carried on the compilation of the results of its quinquennial census of electrical industries; completed the work on its decennial inquiries relating to transportation by water and shipbuilding; brought well toward completion the preparation of its decennial report on religious bodies; completed and published its special report on marriage and divorce; conducted its annual inquiries relating to births, deaths, states, and municipalities; published quarterly statistics of stocks of leaf tobacco; made monthly and semimonthly collections and publications of statistics on cotton, cotton seed, and cottonseed products; made special enumerations of population in four counties; carried on the publication of weekly mortality reports for certain large

cities; compiled statistics relating to the mortality from the influenza epidemic; performed a large amount of war work for other governmental establishments; complied with numerous requests for information; and made detailed preparations for taking the Fourteenth (1920) Decennial Census.

The work done along the above lines during the fiscal year and since its close is described below.

CURRENT AND COMPLETED WORK ON STATUTORY INQUIRIES.

ELECTRICAL INDUSTRIES.

Under the authority of the act creating the permanent Census Bureau, this inquiry has been made at five-year intervals since 1902. It embraces central electric light and power stations, electric railways, telephones and telegraphs, and municipal electric fire-alarm and police-patrol signaling systems.

The inquiry was made, in accordance with the usual practice of the Bureau, through correspondence so far as it was practicable to secure the data in this manner. It was necessary, however, to send a number of men into the field to obtain information which could not be secured satisfactorily by mail. The field canvass, which was made by the Bureau's permanent employees, was begun in April, 1918, and was completed in the following December, except in one State, in which two agents were employed during January, 1919, in securing reports from delinquent establishments.

A preliminary report on ocean cable systems was prepared and released for use by morning papers on November 18, 1918. Early in January, 1919, the Bureau began to issue press summaries, each giving, for a particular State or group of States, preliminary statistics for central electric light and power stations; and on April 7, 1919, this series of State summaries was completed and a summary covering the entire United States was issued. Similarly, State summaries in regard to electric railways were issued, beginning in February, 1919; and in the following April this series was completed and a summary for the entire United States was published. A supplemental statement giving figures in regard to capitalization and traffic of electric railways was given to the press under date of July 1, 1919. A preliminary report on telephones was issued in March, 1919.

Meanwhile the work on the final reports was under way. The tables and descriptive text for the light and power station report are now in process of preparation. The general tables for the electric railway report have been completed and the preparation of the text and text tables is well advanced. Tables and text for the final report on telephone lines will be sent to the printer on September 22. Copy for the final report on telegraphs, including statistics for railway telegraph and telephone lines, was sent to the printer on March 4, 1919. The preparation of the report on electric fire-alarm and police-patrol signaling systems was completed in January, 1919. This report and that on telegraphs were issued as one bulletin on July 19, 1919. A press summary of this bulletin was sent out for release on July 17, 1919.

During the canvass 71,891 schedules or reports were received. Of this number, 19,220 were secured by the field force and 52,671 (including 22,752 received through the American Telephone & Telegraph Co.) by mail.

The several electrical industries reports present information as to number of establishments, character of ownership, equipment, income, expenses, employees, salaries and wages, finances, etc.

A few of the facts brought out by the summaries already published are:

The 6,542 electric light and power stations in the United States during the year 1917 generated more than 25,000,000,000 kilowatt hours of electric energy, producing an income of over half a billion dollars and giving employment to more than 100,000 persons, whose salaries and wages aggregated nearly \$100,000,000.

The 943 operating electric railways of the United States during the year 1917 transported over 11,000,000,000 fare-paying passengers, representing an average of 109 trips for each man, woman, and child in the United States; operated 102,603 cars on 32,548 miles of lines; and employed 294,826 persons, to whom were paid salaries and wages aggregating \$267,240,362.

The number of telephones in use in the United States at the close of 1917 was 11,716,520—one to every 9 persons or every 2 families. Of these telephones, 7,326,858 were operated by the 145 Bell-controlled systems and the remaining 4,389,662 belonged to the 53,089 independent systems. The number of calls made during the year was estimated at 21,846,000,000—an average of more than 200 per capita.

The 21 commercial land telegraph systems in the United States in 1917 operated 241,012 miles of pole line, comprising 1,888,793 miles of wire, sent 151,725,228 messages, and employed 47,227 persons, to whom were paid salaries and wages amounting to \$36,392,140.

The six ocean-cable systems of the United States operated 46,950 nautical miles of cable and transmitted 2,913,250 messages in 1917.

TRANSPORTATION BY WATER.

The census of transportation by water is, under the law, a decennial inquiry. The work on the last such census, which covered the calendar year ended December 31, 1916, was described in my report for the fiscal year 1918. In order to avoid the disclosure of information of value to the enemy, the Secretary of Commerce had directed that the water-transportation report be not made public during the war; and for this reason, and in order to permit the employment of the census force on more pressing work, especially war work, its compilation was suspended for several months. After the signing of the armistice the report was completed and sent to the printer, and it will be ready for distribution in the near future.

This report, which will be published in a quarto volume of approximately 300 pages, will contain statistics regarding American documented and undocumented vessels or craft of 5 tons register or over, classified by geographic divisions, namely, the Atlantic coast and Gulf of Mexico, the Pacific coast, including Alaska, the Great Lakes and St. Lawrence River, the Mississippi River and its tributaries, and canals and other inland waters.

SHIPBUILDING.

Statistics for this industry were collected in connection with the quinquennial census of manufactures covering the calendar year 1914, and a further canvass was made in conjunction with the census of transportation by water taken as of December 31, 1916. Although the results of these two investigations were compiled and the preparation of the combined report completed prior to the beginning of the fiscal year 1919, the Secretary of Commerce directed that they be withheld from publication at the time because of the inadvisability of giving out the information during the period of the war. The figures, however, were placed immediately at the disposal of the Shipping Board and other war agencies of the Government. In January, 1919, the restriction upon their publication having been removed, the manuscript was sent to the printer and the report was issued, in bulletin form, on May 16, 1919.

The statistics cover establishments engaged in the construction and repair of vessels, ships, and boats of all classes. Data for shipyards operated by the Federal Government are shown separately.

RELIGIOUS BODIES.

The last decennial census of religious bodies covered the calendar year 1916. The collection of the data for 97 per cent of the churches was made during 1917, and for the remaining 3 per cent was completed in March, 1918. The work was done almost entirely through correspondence.

On May 2, 1918, the Bureau issued a press announcement giving preliminary figures, subject to correction, showing, by principal denominations, the numbers of church organizations, members, ministers, Sunday schools, and Sunday-school officers, teachers, and scholars; and on January 17, 1919, a second press announcement was published which embodied a revision of the first, and in addition presented statistics as to the number of church edifices, value of church property, and expenditures by religious bodies.

The report on religious bodies covers 202 denominations and will be published in 2 parts, with a total of 1,321 pages. Part I, of 594 pages, contains 14 general tables, of which 10 present statistics, by denominations, for the United States, States, counties, and cities, and 4 give statistics for those denominations composed wholly or in part of Negro organizations. In addition, this volume includes a textual discussion of the various items of inquiry, such as church organizations, church members, value of property, etc., by denominations; statistics of ministers in their relation to church work and their compensation; data as to languages used in church services; a summary of the work or general missionary, educational, and philanthropic activities of the denominations; summarized statistics of all denominations for States, counties, and cities; and a summary of the statistics for Negro organizations. Part I is now in the hands of the printer and will probably be issued in November, 1919.

Part II, of 727 pages, consists of 202 sections, each presenting a statement of the history, doctrine, polity, and work of a particular denomination, together with a brief summary and review of the principal statistics by States, and by ecclesiastical divisions where

such divisions exist. Part II is in press and will be issued in November, 1919.

The preparation of the religious bodies report was frequently interrupted by war work, and the printing has also been delayed by conditions arising as a result of the war.

This report shows a total of 227,487 church organizations in 1916, with an aggregate membership of 41,926,854. Of this aggregate, the Roman Catholic church reported 15,721,815 members, or 37.5 per cent. The number of Sunday schools was 194,759, with 1,952,631 officers and teachers and 19,935,890 scholars. The increase in church membership during the 10-year period 1906-1916 was 19.6 per cent, a rate slightly below that for the increase in the population of the United States between 1900 and 1910 (21 per cent).

VITAL STATISTICS.

Birth statistics.—Beginning with 1915, the Census Bureau has made annual collections of birth statistics from a registration area made up of the District of Columbia and of those States having adequate birth-registration systems. This area has grown rapidly. It comprised, in 1915, only the six New England States, New York, Pennsylvania, Michigan, Minnesota, and the District of Columbia, with a total population amounting to about 31 per cent of the aggregate for the country, but embraced in 1917, in addition to the States and District just named, the States of Indiana, Kansas, Kentucky, Maryland, North Carolina, Ohio, Utah, Virginia, Washington, and Wisconsin, with a total population estimated at 53 per cent of the aggregate for the United States. No changes have been made since 1917. During the fiscal year 1919, however, tests were made in Illinois and Mississippi, but the birth registration in both States failed to measure up to the Bureau's standard of 90 per cent of completeness.

The birth statistics show, for the registration area and its subdivisions, number of births, by sex, color, and month of occurrence; births of white children, by country of birth of father and mother; total deaths (exclusive of stillbirths); births per 100 deaths; birth rates and infant mortality; deaths (exclusive of stillbirths) from important causes for 12 subdivisions of first year of life; legitimacy; plural births; ages of father and mother; and total number of children born to each mother who gave birth to a child during year covered by report, and number of surviving children.

A press summary of the birth-statistics report for 1917 was issued in June, 1919. This summary showed a total of 1,353,792 living births in the birth-registration area, representing a rate of 24.6 per 1,000 of population. The total number of deaths in the same area was 776,222, or 14.1 per 1,000. The births thus exceeded the deaths by 74.4 per cent, this excess being equal to about 1 per cent of the total population of the area. The mortality rate for infants under 1 year of age averaged 93.8 per 1,000 living births.

The report itself was completed and copy sent to the printer in July, 1919, and work is progressing satisfactorily on the report for 1918.

Mortality statistics.—The Census Bureau's series of mortality reports began with the year 1900. These reports have been based on

data collected from States and cities in which the registration of deaths was accepted by the Census Bureau, after suitable tests, as covering at least 90 per cent of the total mortality. The death-registration area has greatly increased in size since 1900, when it contained only 40.5 per cent of the population of the country. It now comprises 31 States—the six New England States, New York, Pennsylvania, New Jersey, Maryland, Virginia, North Carolina, South Carolina, Louisiana, Mississippi, Tennessee, Kentucky, Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Missouri, Kansas, Colorado, Utah, Montana, Washington, Oregon, and California—the Territory of Hawaii, the District of Columbia, and 23 cities in non-registration States, and contains approximately four-fifths of the population of the country. The most recent additions are Illinois, Louisiana, and Oregon, admitted for the year 1918, and Mississippi, admitted for 1919.

The annual mortality report for the calendar year 1917 was completed and copy sent to the printer before the close of the fiscal year, and will be issued in November, 1919. This report shows, for the entire registration area, for the individual States, and for cities and counties, the number of deaths (exclusive of stillbirths), and it shows for States and cities the number of deaths by month of occurrence, age, sex, color, nativity and parent nativity for whites, and cause. Death rates from all causes combined and from individual causes are also given.

A press summary giving data in regard to deaths during the calendar year 1917 from all causes combined and from the principal causes separately, for the registration area as a whole, was issued June 25, 1919. The total number of deaths reported (exclusive of Hawaii) was 1,068,932, representing a rate of 14.2 per 1,000 of population. Of these deaths, nearly one-third were due to three causes—heart diseases, pneumonia, and tuberculosis—and nearly another third resulted from the following nine causes: Bright's disease and nephritis, apoplexy, cancer, diarrhea and enteritis, arterial diseases, influenza, diabetes, diphtheria, and bronchitis. Tuberculosis in its various forms, which a few years ago was responsible for more deaths than any other single cause, occupied third place in this respect in 1917, having fallen behind heart diseases and pneumonia.

Weekly Health Index.—The publication of the "Weekly Health Index," which was inaugurated in October, 1917, and which gives mortality reports from 46 of the largest cities of the country, has been continued. The total number of deaths reported for the week (stillbirths excluded), the death rate, the number of deaths of infants under 1 year of age, and the proportion which such deaths represent of the total are shown. During the epidemic of influenza and pneumonia additional sheets were included which gave the number of deaths resulting from those causes. Beginning with the issue for June 17, 1919, there have also been shown for each week statistics, obtained from the leading industrial insurance companies, as to number of policies in force, total number of death claims, and number of claims per 1,000 policies in force.

Distribution of Physicians' Pocket Reference to the International List of Causes of Death.—During the fiscal year 148,000 copies of this publication were distributed by mail to physicians, in an endeavor to reach every physician in the United States.

Need of Federal legislation providing for registration of births and deaths.—In the matter of birth and death registration the United States has not kept pace with many of the more enlightened countries of the world. This condition is due to the fact that registration has been left to the control of the individual State governments, many of which have failed to establish and maintain adequate systems of recording births and deaths. The practice of the Census Bureau is to admit to the "birth-registration area" those States, and to the "death-registration area" those States and those cities in non-registration States, in which the Bureau's tests indicate the registration to represent at least 90 per cent of all births or of all deaths, as the case may be, and in which the registration systems are such as to justify the expectation of a still more nearly complete registration in the future. The present birth-registration area comprises 20 States and the District of Columbia and is estimated to contain 53 per cent of the country's population; and the present death-registration area is made up of 31 States, 23 cities in other States, the District of Columbia, and the Territory of Hawaii, with a combined population estimated at 80 per cent of the total for the country.

Thus far the only legislative action taken by the Federal Government toward the improvement of our vital statistics is found in a joint resolution of Congress approved February 11, 1903, requesting the State authorities to cooperate with the Census Bureau in securing a uniform system of birth and death registration. The Bureau itself has achieved some success in arousing the interest of the States in the matter. Under present conditions, however, it is likely to be many years before the last one of the 48 States enacts and properly administers adequate registration laws. It will thus be necessary, if the birth and mortality records of every municipality and county are to be made reliable, permanent, and readily available for reference at any time in the near future, to provide for a comprehensive system of Federal control and supervision. I recommend, therefore, that this be done.

FINANCIAL STATISTICS OF CITIES.

The report presenting financial statistics of cities having more than 30,000 inhabitants for the fiscal year 1918 was completed and copy sent to the printer on March 17, 1919, and will be issued in October, 1919. This report is one of an annual series which was inaugurated when the Bureau of the Census became a permanent organization in 1902. It is a 357-page quarto volume giving statistics in regard to (1) total and per capita receipts from the various sources of revenue; (2) total and per capita payments for expenses, interest, and outlays; (3) total value of city properties; (4) total and per capita indebtedness, purpose of issue, and rate of interest; and (5) assessed valuation of property, basis of assessment, tax levies, rates, and methods of assessment. The figures for each city relate to its latest fiscal year ended prior to July 1, 1918. In addition to the financial statistics just specified, the report presents various other items of information of interest to municipal officials, members of civic bodies, etc.

A press summary of the report for the fiscal year 1918 will be issued in October, 1919. Among the more important of the facts that

will be set forth in this summary are the following: In 147 of the 227 cities of more than 30,000 population, the excess of expenditures for governmental costs, including interest and outlays for permanent improvements, over revenues during the fiscal year amounted to \$70,923,990, or \$3.48 per capita. In the remaining 80 cities the excess of revenues over expenditures was \$22,323,060, or \$1.60 per capita. Taking the entire 227 cities as a group, the excess of expenditures over revenues amounted to \$48,600,930, or \$1.42 per capita.

The field and office work on the 1919 inquiry is now in progress, and copy for the report will probably be sent to the printer early in the spring of 1920.

GENERAL STATISTICS OF CITIES.

It has been the practice of the Census Bureau, since its establishment on a permanent basis in 1902, to issue reports on various phases of municipal governmental activities, in addition to the financial reports, under the title "General Statistics of Cities." At first these general statistics were issued biennially, but for the fiscal years 1915 to 1918, inclusive, they have been published annually. For 1918 the subject covered under this head was municipal markets in cities of over 30,000 population. Copy for the report was transmitted to the printer January 31, 1919; on May 12 a press summary was issued; and on July 23 the complete report was published in the form of a 56-page bulletin. This report showed a total of 237 municipal markets maintained by 128 of the 227 cities having more than 30,000 inhabitants. (Many of the smaller cities also maintain markets, but since the Bureau is authorized by law to collect statistics only from those having more than 30,000 inhabitants, it was impossible to extend the inquiry so as to cover the entire field.)

Although the municipal market is by no means a new institution, it has received a great impetus in recent years. In fact, no fewer than 107 of the 237 markets covered by the report have been established since the beginning of the present century, and 67 have commenced operations since January 1, 1914. The subject is a timely one in view of the abnormally high prices now charged for most foodstuffs, and the information presented in the report will be of value to cities that have not yet established municipal markets but are contemplating doing so.

Early in the fiscal year two reports—"Specified Sources of Municipal Revenue: 1917," and "Statistics of Fire Departments: 1917"—which had been prepared during the preceding fiscal year were published.

Because of the necessity for curtailing its current inquiries in order that the Bureau may have available for the Fourteenth Census work a sufficient number of trained employees, no report giving general statistics of cities will be compiled for the fiscal year 1919.

FINANCIAL STATISTICS OF STATES.

The report presenting financial statistics of States for the latest fiscal year was completed and copy was sent to the printer on April 19, 1919, and was issued in September, 1919. The report on this

subject is the fourth of the annual series of which it forms a part. It follows closely the lines of the reports giving financial statistics of cities, showing in detail State revenues, expenditures, properties, indebtedness, assessments, tax rates, etc. In fact, the only changes made in the municipal classifications in adapting them to the State reports consist in the addition of items showing certain functions exercised by State governments that do not generally pertain to municipal governments.

A press summary of the report for the fiscal year 1918 was issued under date of August 4, 1919. Among the more important of the facts set forth in this summary are the following: In 30 of the 48 States the revenues exceeded the expenditures for governmental costs, including interest and outlays for permanent improvements, by \$37,417,163, or 55.5 cents per capita; but in the remaining 18 States the revenues fell below the expenditures by \$14,597,449, or 40.5 cents per capita. Taking the entire 48 States as a whole, the excess of revenues over expenditures was \$22,819,714, or 22.1 cents per capita.

Work on the inquiry for the fiscal year 1919 is now in progress, and the copy for the report will probably be sent to the printer early in the spring of 1920.

The State finance reports, which present the only statistics that permit comparison of the revenues, expenditures, and other financial transactions of State governments, have been well received by the State officials, and as a result of the inauguration of this inquiry proper accounting systems have already been adopted in certain States which had not formerly maintained them.

COTTON AND COTTON SEED.

During the fiscal year the Census Bureau carried on its regular inquiries relating to cotton and to cotton seed. In addition to an annual bulletin on cotton production and distribution for the season of 1917-18 and a pamphlet giving complete statistics of cotton ginned from the crop of 1918, there were issued 10 reports relating to cotton ginned to specified dates during the ginning season; 12 reports, at monthly intervals, on cotton consumed, imported, exported, and on hand, and active consuming cotton spindles; and another monthly series relating to cotton seed received, crushed, and on hand, and cottonseed products manufactured, shipped out, and on hand.

The annual bulletin presents the statistics published in the periodical reports for the preceding year, with additions and amplifications, together with data relative to cotton production and consumption in foreign countries and other information in regard to the cotton and cottonseed-products industries. The pamphlet presenting the final figures on cotton ginned from the crop of 1918 (together with data for earlier years) was distributed in time to be of use in making comparisons between the ginnings from the crop of 1919 and those for corresponding periods in preceding years. The periodical and monthly reports on cotton ginned, cotton consumed, cotton seed and its products, etc., are issued in the form of post cards, which are mailed to large numbers of growers, ginners, manufacturers, dealers, and others interested in the cotton and cottonseed industries.

The extension of cotton growing southward into Florida has necessitated the establishment of new ginneries. The Bureau has accordingly sent circular letters to some 300 postmasters in that section in order to obtain the names of all ginneries established, so that complete information as to cotton ginning in Florida may be collected.

The pamphlet giving statistics in regard to the 1918 cotton crop showed a production of 12,040,532 equivalent 500-pound bales, gross weight. This crop was greater than the crops of the preceding 3 years, but was somewhat below the averages for the last 5 years and the last 10 years—12,423,917 bales and 12,728,576 bales, respectively. The production in all the cotton States except Texas, Louisiana, Oklahoma, and Florida showed an increase as compared with 1917.

STOCKS OF LEAF TOBACCO.

During the fiscal year the Bureau issued four reports on stocks of leaf tobacco held by certain classes of manufacturers and dealers coming within the scope of the act of Congress approved April 30, 1912. These reports related to the dates July 1 and October 1, 1918, and January 1 and April 1, 1919.

In addition, Bulletin 139, entitled "Stocks of Leaf Tobacco: 1918," was prepared within the fiscal year. It presents the data contained in the quarterly reports just mentioned, together with comparative figures for earlier years and various statistical information in regard to production, consumption, imports, and exports; prices paid growers; kinds and quantities of products; Federal revenue derived from tobacco, etc. Data relative to the world's production of tobacco and the international trade in unmanufactured tobacco are also shown. This bulletin is the second of an annual series designed for the purpose of bringing together in convenient form for ready reference the statistics of the various phases of the tobacco industry published by the several Federal bureaus which compile such statistics.

OFFICIAL REGISTER.

One of the duties imposed by law upon the Census Bureau is the compilation of the Official Register of the United States. This is a biennial publication which gives the name, position, salary, etc., of every official and employee in the legislative and judicial branches of the Federal Government; of every official and employee in the civil service of the executive branch, exclusive of the postal service; and of every commissioned officer of the Army, Navy, and Marine Corps. The forthcoming issue will relate to July 1, 1919. Preparations for the compilation of this issue were made during the latter part of the fiscal year 1919, and the work is now well under way. The last edition, that for July 1, 1917, contained about 166,000 names, but the number in the edition for the present year will be very much greater.

SPECIAL AND MISCELLANEOUS LINES OF WORK.

MARRIAGE AND DIVORCE.

Marriage and divorce statistics for the calendar year 1916 were collected in 1917. At the close of the fiscal year 1917-18 the work on the report had been substantially finished with the exception of

the text and text tables, which were completed in August, 1918. A press summary was issued March 20, and the report itself was published April 7, 1919. The work of compilation and preparation for printing was delayed somewhat by the necessity of employing clerks on the various war inquiries that were carried on by the Bureau, and the printing was also delayed by the rush of war work at the Government Printing Office.

The report on marriage and divorce shows, among other things, by counties, the number of marriages performed and the number of divorces granted during 1916, with detailed statistics for divorces, covering such matters as cause, party to whom granted, whether contested, place of marriage, whether alimony was asked and whether granted, and the extent to which children were affected.

SPECIAL CENSUSES OF POPULATION.

Special censuses of the population of Okmulgee, Ottawa, and Tulsa Counties, Okla., were ordered by the Secretary of Commerce at local request and expense. The census of Okmulgee County was taken as of August 15, 1918, and the report published in January, 1919; the census of Ottawa County was taken as of December 16, 1918, and the report published February 27, 1919; and the enumeration of Tulsa County was made as of January 15, 1919, and the report issued April 25, 1919.

A special census of Charles County, Md., was ordered by the Secretary of Commerce in March 1919, at the request of the Secretary of the Treasury, in order to determine its population and the effect of the recent influenza epidemic thereon. The schedules and instructions for this special census were prepared in conjunction with Dr. Frost, of the Public Health Service. The enumeration was made as of March 12, under the supervision of experienced census employees, but the tabulation of the returns was made by the Public Health Service.

STATISTICS OF FATS AND OILS.

Early in the calendar year 1919 the collection, at monthly intervals, of data in regard to the production, consumption, and stocks of fats and oils was discontinued by the Food Administration, its last compilation of such data being that for December, 1918. In view of the need for reliable information concerning these commodities during the reconstruction period, the Secretary of Commerce authorized the Bureau of the Census to collect and publish, at quarterly intervals during the calendar year 1919, statistics similar to those which had been gathered and compiled by the Food Administration. The required forms were printed and sent out, and the compilation of the statistics is now under way.

UNITED STATES LIFE TABLES.

As stated in my previous reports, the Bureau of the Census compiled a series of "life tables" based on the population in 1910 and the mortality in the three years 1909, 1910, and 1911 for the six New England States and New York, New Jersey, Indiana, Michigan, and the District of Columbia. These life tables, which were published

in June, 1916, are similar to those prepared by most civilized countries, but differ from those used by life insurance companies in that they relate to the entire population of the area covered instead of being confined to selected risks. In order to provide a basis for the study of changes in mortality conditions, life tables were computed for these same areas for the three-year period 1900-1902, and in addition certain tables for the ten-year period 1901-1910, and two for the census year 1890 for Massachusetts, the only State for which data for that year were available. These supplementary tables, with their accompanying text, will be sent to the printer in November, and will be included in a new edition of the original life tables, thus materially enhancing the value of the latter. In connection with certain of the original tables there will be given in this new edition commutation columns, annuities, and premiums at various rates of interest; and there will be shown also the data on which the various tables were based, together with the derivation of the theory and an explanation of the methods of computing them. The preparation of these tables could not be brought to completion sooner without interfering with the current work of the bureau; but their character is such that their value is not impaired in any material degree by the delay in publication.

SPECIAL INVESTIGATION OF INFLUENZA EPIDEMIC.

The sudden outbreak of influenza and pneumonia in the United States early in the fall of 1918 took so great a toll of life that it was felt by eminent medical men and vital statisticians throughout the country, including officials of the United States Public Health Service, that such data in regard to the mortality resulting from these causes as were obtained by the Bureau of the Census from the death-registration area would be of great value in studying the epidemic if compiled in special tables. The Director of the Census therefore authorized the immediate compilation of these data. Special tables and diagrams showing the deaths from influenza and pneumonia in Indiana, Kansas, and the city of Philadelphia, from September 1 to December 31, 1918, are now ready for publication in the form of a special bulletin.

Thanks are due to the United States Public Health Service for its generous financial assistance in this work.

STANDARD NOMENCLATURE OF DISEASES, PATHOLOGICAL CONDITIONS, AND INJURIES.

The preparation of a standard nomenclature of diseases, pathological conditions, and injuries for the United States was begun by the Council of National Defense during the war, but it became necessary to lay it aside because of the pressure of other important work. The council thereupon turned it over to the Bureau of the Census, with the approval of the Surgeon Generals of the Army, Navy, and Public Health Service, and the Bureau completed the work and sent the copy to the printer before the close of the fiscal year.

INTERNATIONAL STATISTICAL YEARBOOK.

Within the past fiscal year the Bureau was requested by the Secretary of the International Statistical Institute at The Hague to supply data relating to the United States for the International Statistical Yearbook (*Annuaire Internationale de Statistique*), published by the Institute. Compliance with this request involved considerable work, as figures were called for in detail not only for the United States as a whole but for each State as well; but, since the yearbook will be a standard publication presenting statistics for all the countries of the world, and will be very widely used, it seemed desirable and important that the figures for the United States should be as nearly complete as it was possible to make them. The work was begun in February, 1919, and was completed in June, 1919.

STATISTICAL DIRECTORY OF STATE INSTITUTIONS.

During the fiscal year 1918 the Bureau brought to substantial completion the compilation of a statistical directory of State institutions for the dependent, defective, and delinquent classes, of which mention has been made in my preceding reports. Because of the great amount of war work and other current work to be done both by the Printing Office and by the Bureau, the publication of this directory has been considerably delayed, but it is expected that it will be ready for distribution before the close of the present calendar year.

SEARCHING OF CENSUS RECORDS TO DETERMINE AGES.

During the fiscal year 2,315 searches of census records were made for the Pension Bureau in order to determine the ages of applicants for pensions and increases of pensions. Many other searches were made for genealogical purposes and for the purpose of supplying statements as to the ages of children whose births had not been recorded and who wished to obtain certificates showing that they were of suitable ages to permit their employment without violation of the child-labor laws. In addition, as set forth in the section entitled "War Work," much work was done in searching the records to establish the ages of men who had not registered for military service but were believed to be within the prescribed ages.

DISTRIBUTION OF OLD CENSUS SCHEDULES TO STATE LIBRARIES.

The Census Bureau had on hand 1,349 bound volumes of old schedules returned by the enumerators at the censuses of 1850 to 1880, containing data relating to births and deaths, agriculture, manufactures, and "social statistics of cities." As these volumes were of little value to the Bureau for genealogical or other purposes and were rarely used or referred to, and as the storage space in the fireproof vault at the Commerce Building was needed for other material, it was decided to dispose of them. Accordingly they were distributed during the year to State libraries and historical societies, and in cases where the State officials declined to receive them, to the library of the Daughters of the American Revolution, at Washington.

MISCELLANEOUS INFORMATION SUPPLIED OTHER GOVERNMENTAL AGENCIES
AND OUTSIDE ORGANIZATIONS.

Numerous compilations of statistical information from the Bureau's records were made in compliance with requests received from other Federal bureaus and offices and from private concerns. The more important of these compilations are set forth below.

Chamber of Commerce of the United States.—List of cities of 10,000 to 15,000 population which reported municipal lighting systems at the last census of electrical industries.

United States Tariff Commission.—Table showing, by States, quantities and values of certain classes of woven goods reported as manufactured in 1914; list of establishments engaged in production of bone, carbon, and lampblack.

War Department, Office of Surgeon General.—Table giving statistics for inland waterways, showing principal ports and numbers, sizes, and ownership of, and quantities of freight handled by, the various classes of vessels on canals and inland waters.

General Electric Co.—Statistics showing growth of central electric light and power station industry since 1912.

"Power Plant Engineering" (periodical).—Data showing, by States, horsepower reported by central electric light and power stations and electric railways for 1917 and by manufacturing establishments for 1914.

Sinclair Refining Co., Chicago.—Statistics showing, by States, power-plant equipment of central electric light and power stations and electric railways; and, for the United States as a whole, distribution of power between light and power stations and electric railways.

Southwestern Electrical and Gas Association, Dallas, Tex.—Statistics relating to the States of Louisiana and Texas, and the United States as a whole, as to capital, income, employees, customers served or passengers carried, and output of stations, as reported by electric light and power companies and electric railways for 1917 and by gas companies, so far as such statistics were available, for 1914.

National Association of Cotton Manufacturers.—Statements showing stocks of cotton lining and of cloth and fabric for uppers held by boot and shoe and leather manufacturers at close of each month from May 31 to December 31, 1918, and on March 31, 1919.

WAR WORK.

WORK DONE BY THE BUREAU OF THE CENSUS FOR OTHER GOVERNMENTAL ESTABLISHMENTS.

During the fiscal year the Bureau of the Census carried on various lines of war work, most of which were begun during the preceding year, for the War Department and for other Federal establishments. The more important of these activities are briefly described below.

Census of materials and commodities for use of war agencies.—This work, which was authorized on April 8, 1918, is referred to on pages 11 and 12 of my report for the fiscal year 1918. It was undertaken for the purpose of securing statistical information needed by a number of war agencies—the War Trade Board, the War Industries Board, the Shipping Board, the Food Administration, the Council of National Defense, and the Commercial Economy Board—

in regard to the production and stocks on hand of the following-named classes of commodities, which are listed in the order in which the work upon them was taken up:

Kapok fiber.

Jute.

Leather stocks.

Boots, shoes, and manufactured leather goods.

Silk.

Antimony.

Graphite crucibles.

Wool manufactures—machinery and production.

Iron and steel products.

For stocks of kapok fiber, one report, relating to the date May 1, 1918, was compiled from the returns of 313 establishments. This report was prepared and given to the war boards prior to the beginning of the fiscal year 1919, but considerable work was afterward done in revising the statistics for final presentation.

For stocks of jute, one report, referring to June 1, 1918, was compiled from the returns received from 3,473 establishments. This was completed and given to the war boards on October 2, 1918.

For leather stocks, monthly reports relating to the last day of each month, May to December, 1918, and quarterly reports relating to March 31 and June 30, 1919, have been compiled. The first of these reports, which was given to the war boards on August 28, 1918, was based on the returns from 3,266 establishments for May 31, and was followed in rapid succession by reports for the following months. The Bureau also issued press summaries giving statistics for leather stocks in the United States, together with figures for the quantities and values of imports and exports of leather, as compiled by the Bureau of Foreign and Domestic Commerce, for the periods intervening between the dates to which the reports related.

For stocks of boots, shoes, and manufactured leather goods, reports similar in form to those compiled for leather stocks were prepared and given to the war boards and other agencies, and summaries were given to the press. These reports related to the last day of each month, June to December, 1918, and to March 31 and June 30, 1919. The report of stocks on hand and in transit for June 30, 1918, was based on returns received from 3,541 establishments and was given to the war boards on October 18, 1918.

Although the collection of statistics for leather stocks and stocks of boots, shoes, and manufactured leather goods ceased to be a war necessity after the signing of the armistice, it was of great importance as a conservation measure. The collection of these statistics, at quarterly intervals, was therefore continued until the end of the fiscal year 1919, at the request of the War Industries Board and upon the recommendation of the War Service Committee representing the shoe and leather industries of the United States Chamber of Commerce. It was decided that a simplified form of schedule should be used for the quarterly statistics, which would answer all requirements and at the same time lessen the work of the Bureau as well as that of the persons supplying the data; and accordingly the form in use was revised and a new schedule printed.

The silk report, which related to June 1, 1918, and covered returns for 1,588 establishments, was given to the war boards on October 7, 1918.

The antimony report related to June 30, 1918, and was based upon the returns from 751 establishments. This report was completed and given to the war boards on October 8, 1918.

For graphite crucibles reports were prepared relating to the dates June 30 and September 30, 1918. The first canvass covered 938 establishments, and the preliminary and final reports were given to the war boards on September 5 and September 30, 1918, respectively. The report for September 30, covering 828 establishments, was completed and given to the war boards on January 25, 1919.

The canvass for woolen manufactures and wool machinery related to July 1, 1918. A preliminary report, based upon the returns from 900 establishments, was given to the War Industries Board on August 7, 1918; and the revised report, covering 1,074 establishments, was completed and given to the war boards and other governmental agencies on September 6, 1918. A condensed table summarizing the results of this inquiry was also prepared, and mimeographed copies were sent on November 21 to the National Association of Wool Manufacturers for distribution among its members.

The canvass for iron and steel products referred to September 1, 1918. A preliminary tabulation, covering 7,129 establishments, was made and submitted to the war boards under date of October 30, 1918; and returns received later, up to and including November 23, were tabulated and the results included in a revision of this advance report, which was given to the statistical branch, General Staff, War Department, on November 29, 1918. The final report, covering 10,494 establishments, was completed and supplied to the war boards on December 23, 1918.

Statistics for all the war commodities covered by the several inquiries have been revised and rearranged for printing in a somewhat condensed form more convenient for reference. This is designed to be the final presentation of these statistics, which will constitute a permanent record of the census of war commodities.

The bulk of the work on these war-commodities inquiries was done during the period from May 1 to November 30, 1918; and the total number of questionnaires handled in connection with the compilation of the statistics was 204,596.

Census of commercial greenhouses.—This inquiry, which was made at the request of the priorities division of the War Industries Board, in order to obtain information for use in connection with fuel restrictions, was authorized by the Secretary of Commerce on July 13, 1918. The work performed consisted in gathering, by means of questionnaires, data pertaining to commercial greenhouses, covering, for the year ended June 30, 1918, area; value of products; fuel, fertilizers, insecticides, and fungicides used; and the number of men 18 years of age and over continuously employed. The work was done during the period from July 24 to November 30, 1918, and the total number of schedules handled was 29,192.

Work done for Provost Marshal General.—As stated in my former report, the Bureau, at the request of the Provost Marshal General, allocated the enlistments in the Navy, the Naval Reserve, the National Naval Volunteers, and the Marine Corps from April 2, 1917, to June 30, 1918. These enlistments, which numbered 293,788, were allocated in anticipation of their being credited to the quotas of the various States, in accordance with the terms of the bill providing

for the second draft, as passed by the House of Representatives. This provision, however, was rejected by the Senate and was stricken out in conference.

Estimates were prepared in July, 1918, for the Provost Marshal General, as to the number of British subjects in the United States who might be subject to draft under the terms of the conventions concluded between this country and Great Britain, and also as to the number of men in the United States from 18 to 20 and from 21 to 45 years of age, inclusive.

Determination of ages of registrants.—District attorneys and other officials of the Department of Justice were, at their request, supplied with age certificates for men who, although of military age, had not registered for the selective draft. Such certificates have been furnished from month to month during the entire fiscal year and since its close, and some of the cases are still pending.

Men who were in doubt as to whether they were within the military age limits were supplied with statements as to their ages.

Liberty loan work.—In connection with the Liberty Loans made during the fiscal year the Bureau of the Census rendered aid to the Treasury Department by sending out literature to various mailing lists.

Compilation of statistics relative to foreign countries for peace conference.—This compilation comprised statistics of the movement of cereals, salt, oil, coal, and wood on the railways and waterways of Russia in 1908, 1909, and 1910, the latest years for which figures were available; a tabulation showing the distribution of manufacturing establishments and wage earners in Austria by industries and factory inspection districts; and statistics in regard to the exports and imports of countries and colonial possessions in Africa.

Information for United States Shipping Board.—At the request of the United States Shipping Board, detailed tables were prepared showing the population and value of agricultural products within a radius of 100 miles of each of 28 cities, located on the Atlantic, Pacific, and Gulf coasts.

Miscellaneous war work.—In addition to the specific lines of work just described, the Census Bureau performed numerous small amounts of war work for various departments and establishments of the Government, including the Post Office Department, the Navy Department, the Department of Labor, the Bureau of Foreign and Domestic Commerce, the Fuel Administration, the Federal Trade Commission, the Telephone and Telegraph Administration, the Office of the Chief of Engineers, the General Engineer Depot, the Office of the Director of Military Aeronautics, the Emergency Fleet Corporation, the Railroad Administration, the War Industries Board, the War Trade Board, the Capital Issues Committee, the Central Statistical Clearing House, the Employment Service, the Reconstruction Survey, the War Service Committee of the Rubber Industry of the United States, and the American Electric Railway Association War Board.

The total amount of war work done during the fiscal year (exclusive of overtime) was equivalent to the services of 1,719 employees for one month, or 143 for one year. Most of this service, of course, was performed prior to January 1, 1919.

ENLISTMENTS, CONTRIBUTIONS, ETC.

Members of Bureau's force enlisted and drafted into military and naval services.—During the fiscal year 25 office and field employees of the Census Bureau entered the military and naval services (not including those who joined as Army field clerks). The total number who entered those services from the outbreak of the war to the signing of the armistice was 79. The loss of so many employees, some of whom had had years of experience in census work, caused considerable inconvenience, but no effort was made to obtain deferred classification for any of these men because of their employment in the Bureau. Up to August 31, 1919, only 20 of the 79 men who left had returned to the Bureau.

Subscriptions for war purposes.—Subscriptions made by the Census officials and employees to the Fourth Liberty Loan and the Victory Loan—the two loans made during the fiscal year—totaled \$190,800 (not including subscriptions of local cotton agents), and the aggregate subscriptions to the five war loans amounted to \$355,600. The proportions which the numbers of subscribers represented of the total force of the Bureau were 77.4 per cent at the first loan, 75.6 per cent at the second, 89 per cent at the third, 96.2 per cent at the fourth, and 98.4 per cent at the Victory Loan. The total sales of War Savings Stamps and Thrift Stamps in the Bureau, to August 31, 1919, aggregated \$23,620. In addition, the members of the Census force subscribed \$4,551 to the Red Cross; \$1,648 to the United War Work Campaign, etc.; and \$3,000 for the support of French war orphans.

During the entire period of the war the Bureau's personnel manifested a high spirit of patriotism and a most commendable degree of self-sacrifice.

PREPARATIONS FOR THE FOURTEENTH CENSUS.

THE FOURTEENTH CENSUS LAW.

As set forth in my report for the fiscal year 1918, a bill to provide for the fourteenth and subsequent decennial censuses was drafted by the Census Bureau and submitted to the House Committee on the Census. The bill was passed by the House of Representatives July 2, 1918, and by the Senate, with amendments, January 14, 1919; the conference report was adopted by the Senate February 28, 1919, and by the House March 3, 1919; and the bill was approved by the President March 3, 1919. The act as enacted did not differ greatly from the bill prepared by the Census Bureau, although a number of minor changes were made. In many respects it follows the lines of the Thirteenth Census legislation, but there are departures in regard to a few important features and numerous unimportant ones. The most significant points of difference are as follows:

Section 1.—Provision for census of forestry and forest products.

Section 6.—Reclassification of clerical salaries, increase in compensation of clerical and subclerical employees, and increase in number of higher-salaried clerks in Census Bureau; and provision for preference to honorably discharged soldiers, sailors, and marines,

and widows of such, in making appointments to clerical and other positions in all executive departments and independent governmental establishments. The reclassification of clerical salaries provides a much larger number of classes, differing from each other by only \$60 per annum between \$900 and \$1,440, and by \$120 per annum between \$1,440 and \$1,800. The provision for preference to honorably discharged soldiers, etc., was later amended by section 1 of the third deficiency appropriation act, approved July 11, 1919, to make it apply to all positions in the executive branch of the Government in the District of Columbia and elsewhere, and to include the wives of injured soldiers, sailors, and marines who themselves are not qualified, but whose wives are qualified, to hold the positions to which appointments are contemplated.

Section 7.—Provision requiring Civil Service Commission to examine applicants who are temporarily absent from the places of their legal residence without requiring them to return for the purpose of taking the examination, and provision authorizing selection of temporary census employees from reemployment registers established by Executive order of November 29, 1918. The first-mentioned provision is general legislation relating to the entire Government service. The reemployment registers established by Executive order of November 29, 1918, are made up of the names of persons eligible for permanent employment in apportioned positions in the competitive classified service who have been separated from competitive classified positions after less than three years' service, by reason of reductions of force, and who have been recommended for further employment by the Government because of efficient service.

Section 8.—Omission of provisions for securing information in regard to unemployment on census date and during preceding calendar year and in regard to survivors of Union or Confederate Army or Navy. The information obtained through these inquiries at the Thirteenth Census was incomplete and unsatisfactory, for which reason it was decided to drop them.

Insertion of provision for obtaining information as to encumbrances on homes and farms.

Omission of provision for enumeration of inmates of institutions for dependent, defective, and delinquent classes. The inquiry relating to these classes will be made after the close of the Fourteenth Census period.

Inclusion of inquiry as to sex of farm operators.

Amplification of irrigation inquiry and addition of drainage inquiry.

Section 9.—Provision for appointment of supervisors by Secretary of Commerce, upon recommendation of Director of the Census, instead of by President, by and with advice and consent of Senate.

Section 20.—Change of census date from April 15 to January 1; reduction of minimum-size limit for cities in which enumeration must be completed within two weeks from 5,000 to 2,500 (as ascertained at last preceding census).

Sections 21-24.—These, the so-called "penalty sections," have been so drawn as to make them more effective and more readily enforceable than the corresponding sections of the Thirteenth Census

act. In section 23 there has been inserted a provision penalizing the offering of any suggestion, advice, or assistance by any individual, committee, or other organization, with the intent or purpose of causing an incorrect enumeration to be made.

Section 31.—Provision for mid-decennial census of agriculture to be taken in 1925 and at ten-year intervals thereafter. (A similar provision was included in the Thirteenth Census act, but was later repealed.)

Section 32.—Provision for biennial census of products of manufacturing industries, beginning in 1921.

These provisions for more frequent canvasses to ascertain the character and extent of our agricultural and manufacturing resources represent a most important extension of the Bureau's work and one which, I am confident, will achieve results of real benefit to the country. Hitherto these inquiries have been made at intervals of such length—ten years for agriculture and five years for manufactures—that they have not at all times provided the data needed by agricultural and industrial interests, by legislators, and by the public generally. For example, the present campaign to reduce the cost of living could be carried on more efficiently, and those in charge of it could proceed with a greater degree of certainty, if we had up-to-date figures as to agricultural and manufactured products. And, apart from the abnormal conditions now existing, the complexity of the present-day industrial fabric is such as to require more frequent statistical illumination if it is to be maintained in a condition of strength and soundness.

JOINT ADVISORY COMMITTEE OF AMERICAN STATISTICAL AND ECONOMIC ASSOCIATIONS.

Upon the invitation of the Secretary of Commerce, under date of November 18, 1918, the presidents of the American Statistical and American Economic Associations appointed a joint committee to be advisory to the Director of the Census and the Department of Commerce in connection with the work of the Fourteenth Census. This committee is composed of six members, namely:

Representing American Statistical Association—

W. S. Rossiter, chairman, formerly chief clerk, Bureau of the Census; now president, Rumford Press, Concord, N. H.

Prof. Carroll W. Doten, Massachusetts Institute of Technology.

Dean Edwin F. Gay, Harvard University.

Representing American Economic Association—

Prof. Wesley C. Mitchell, Columbia University.

Prof. E. R. A. Seligman, Columbia University.

Prof. Walter F. Willcox, Cornell University.

The Joint Advisory Committee has thus far held six meetings, the first on February 10, 1919, and the sixth on June 27, 1919. It has given very careful consideration to all phases of the census work in connection with which plans have thus far been made, has given its approval to practically all these plans, and has made a number of helpful recommendations. I take this opportunity to express publicly my sincere thanks to the members of this committee for the assistance they have rendered to me and to the other officials of the Bureau in making our plans for the great task of taking the Fourteenth Census.

FIELD FORCE.

Continental United States (exclusive of Alaska) has been divided into 372 supervisors' districts. These districts, outside the large cities, are, as a rule, coextensive with the congressional districts; but each of the large cities has been placed under the charge of a single supervisor, with the exception of New York City, which has been divided into four districts. A bulletin describing the supervisors' districts and showing their outlines on a series of State maps has been prepared and printed; and tentative plans for the division of these districts into approximately 85,000 enumeration districts have been prepared for the use of the supervisors. In order to secure the data needed as a basis for this work, it was necessary to send letters to the 3,050 county clerks throughout the country requesting information as to changes in the boundaries of the counties and their subdivisions since 1910, and to obtain from the officials of the 779 cities which at the last census had populations of 8,000 or more, maps showing ward and precinct boundaries and statements of the registration at the latest elections.

As already pointed out, the Fourteenth Census act provides for the appointment of supervisors of census by the Secretary of Commerce, upon the recommendation of the Director of the Census. This is a departure from the method employed heretofore, namely, appointment by the President, by and with the advice and consent of the Senate, which naturally might occasion more or less delay in certain cases, especially because of the change in the census date. At the Thirteenth Census the enumeration was made as of April 15, and at earlier censuses as of June 1; but under the existing law the next and subsequent censuses will be taken as of January 1. This necessitates the appointment of the supervisors at an earlier date than heretofore, and with the least possible delay. Moreover, it is believed that the director will have more direct control over the supervisors and thus can obtain better results under the method of appointment provided for in the Fourteenth Census act.

Under date of March 17, 1919, the Bureau issued a press notice setting forth the date of the coming census, the approximate number of supervisors to be appointed, and the method of their appointment, and requesting applicants for supervisorships to address their applications to the Director of the Census. Approximately 5,500 persons were supplied, upon request, with application blanks for the position of supervisor, similar to the forms used by the Civil Service Commission for "nonassembled" examinations. About 2,200 of these applications were filled out and returned to the Bureau, duly sworn to. A suitable scheme of rating was devised, the papers were graded accordingly, selections were made, and a list of candidates recommended to the Secretary of Commerce for appointment; and during August practically all the appointments were made by the Secretary and announced through the public press.

Of the 372 supervisors appointed for continental United States, 65, or 17.5 per cent, were in the military or naval service during the recent war. Three women have been appointed, one each in New York, Texas, and Nevada. In the following statement the supervisors are grouped according to certain of the more important occupations represented:

Occupation.	Number.	Per cent.
Total.....	372	100.0
Lawyers.....	110	29.6
Physicians and dentists.....	5	1.3
Editors.....	44	11.8
Educators.....	13	3.5
Farmers.....	23	6.2
All other.....	177	47.6

The following letter from the Secretary of Commerce addressed to me, under date of July 12, 1919, in regard to political activity on the part of supervisors and enumerators, has been embodied in the instructions to these classes of census employees:

The taking of the Fourteenth Census involves the appointment of some 400 supervisors, upon whom in turn will rest the serious duty of selecting and appointing many times that number of enumerators. The success of the census will depend upon the efficiency, impartiality, and the strict attention to duty of the supervisors and upon the intelligence of the enumerators and their faithful devotion to the important public business which is to be placed in their hands.

The vast country-wide system thus created can be perverted to political uses if both supervisors and enumerators are not forbidden to use it as an instrument for influencing either local or general elections, or primaries, in the interest of particular candidates or parties.

The work of the census itself is a sufficient task to tax the powers of those concerned in it, and it is a reasonable requirement that whoever accepts an appointment as supervisor or enumerator shall during the term of his employment as such strictly avoid any active part in politics.

Attention is therefore directed to the following order of the President of the United States, dated August 14, 1909:

"I therefore order that, in the preparation of regulations for the taking of the census, you and the Director of the Census embody therein a provision that any supervisor or enumerator who uses his influence with his subordinates or colleagues to assist any party or any candidate in a primary or general election, or who takes any part, other than merely casting his vote, in politics, national, State, or local, either by service upon a political committee, by public addresses, by the solicitation of votes, or otherwise, shall be at once dismissed from the service.

"I wish to make this regulation as broad as possible, and wish it enforced without exception. It is of the highest importance that the census should be taken by men having only the single purpose of reaching a just and right result, and that the large amount of money to be expended in the employment of so vast a machine as the census shall not be made to serve the political purposes of any one."

The above order, applicable to the census of 1910, is now confirmed and made applicable to the work of the census of 1920. It is an essential factor in the appointment of every supervisor and enumerator and is to be obeyed by those officers in letter and in spirit. Departure from it will be considered as warrant for dismissal from the service, as therein stated.

The Secretary of Commerce requested the Secretary of the Treasury (as had been done in preparation for the Thirteenth Census) to issue a circular letter to custodians of public buildings directing them, wherever practicable, to furnish suitable office accommodations to the census supervisors. The Secretary of the Treasury complied with this request, and it is expected that quarters in Federal buildings can be secured for a number of the supervisors.

The enumerators will be appointed by the supervisors, with the approval of the Director of the Census. Candidates will be required to fill out a sample census schedule from printed information pertaining to a number of hypothetical families stated in narrative form, and in the case of enumerators whose work will be in rural districts, to

fill out a sample schedule of agriculture, in order to demonstrate their fitness to perform the duties of an enumerator. No special educational qualifications will be necessary, but candidates for enumerators' positions should be active, energetic persons of good address and thorough trustworthiness and should be able to write legibly and with reasonable rapidity.

OFFICE FORCE.

Although there will be a considerable increase in the amount of office work to be done in connection with the Fourteenth Decennial Census as compared with the Thirteenth, due to the growth of the population and industries of the country, it is estimated that the total force of official, clerical, and subclerical employees will reach at its maximum only about 4,000, as against 3,738 at the last census. The reason for this relatively small increase in force is found in the expectation of the Bureau that certain changes in organization, improvements in methods, and developments in tabulating machinery will make possible the accomplishment of a given amount of work with a somewhat smaller number of employees, on the average, than was required at the census of 1910.

The Fourteenth Census act fixes no limit upon the number of appointments which may be made to clerical and subclerical positions nor upon the number in any salary class, but provides that the number of temporary positions at salaries from \$1,440 to \$1,800 per annum, inclusive, shall at no time exceed 150. It further provides that the classification of the statutory force as fixed by the appropriation act for the fiscal year 1919, which included 65 clerks at \$1,400, 30 at \$1,600, and 20 at \$1,800, shall be continued in effect during the decennial census period, thus making a maximum of 265 clerks, both permanent and temporary, who may be paid from \$1,400 to \$1,800 per annum, inclusive.

Appointments.—The minimum salary of \$900 per annum for clerks authorized by the Fourteenth Census act represents an increase of 50 per cent over the entrance salary of \$600 per annum paid the temporary clerks at the Thirteenth Census. Experience during that census clearly showed, however, that an entrance salary of only \$600 was entirely too low to induce a sufficient number of capable persons to accept clerical employment in the Bureau. It will be necessary, therefore, if the large number of qualified employees needed are to be obtained, to offer an entrance salary which will enable appointees to meet the present abnormally high cost of living.

It is estimated that between 3,000 and 3,500 temporary clerks will be needed for this census. These clerks will be appointed, in most cases, as the result of special examinations to be conducted by the Civil Service Commission in the fall of this year throughout the United States, and the appointments will be apportioned as nearly as practicable among the several States and Territories and the District of Columbia on the basis of population. In order to meet the pressing needs of the Bureau in the meantime, however, a small number of the temporary clerical and subclerical positions, as well as vacancies on the permanent roll, are being filled by the following methods:

1. By selection from the reemployment registers of the Civil Service Commission established under authority of the Executive Order of November 29, 1918, as amended April 30, 1919. On these registers

are listed the names of all persons who were eligible for permanent employment in apportioned positions in the competitive classified service, who have been separated from competitive classified positions after less than three years' service, by reason of reductions in force, and who have been recommended for further employment by the Government because of efficient service.

2. By selection from the registers maintained by the Commission for the departmental service generally.
3. By transfer, reinstatement, or other method provided by the civil-service rules.

Promotions.—Although, as stated above, there is no limit placed upon the number of temporary clerks who may be appointed nor upon the number in any particular salary class, the law fixes the salary scale as follows: \$900, \$960, \$1,000, \$1,020, \$1,080, \$1,140, \$1,200, \$1,260, \$1,320, \$1,380, \$1,400, \$1,440, \$1,560, \$1,600, \$1,680, and \$1,800 per annum. This salary scale will enable the Bureau to adopt regulations that will provide for promotions at reasonably frequent intervals, with small increments, and for readjusting the compensation of the employees from time to time to make it commensurate with their general increase in efficiency as a result of experience gained in census work. It is anticipated that these small but relatively numerous increases will have a more beneficial effect on the morale of the force than larger increases at less frequent intervals would have.

OFFICE AND FIELD EMPLOYEES AUGUST 31, 1919.

The following statement shows the nature and distribution of the office and field force on August 31, 1919:

OFFICIALS.

Director	SAM. L. ROGERS.
Assistant director	WILLIAM M. STEUART.
Chief clerk	THOMAS J. FITZGERALD.
Chief statisticians:	
Population	WILLIAM C. HUNT.
Agriculture, cotton and tobacco	WILLIAM L. AUSTIN.
Manufactures	EUGENE F. HARTLEY.
Statistics of cities	STARKE M. GROGAN.
Vital statistics	WILLIAM H. DAVIS.
Revision and results	JOSEPH A. HILL.
Disbursing clerk	FRED A. GOSNELL.
Appointment clerk	WALTER S. GILCHRIST.
Geographer	CHARLES S. SLOANE.
Expert chiefs of divisions:	
Administrative	TIMOTHY F. MURPHY.
Appointment	EMILY I. FARNUM.
Cotton and tobacco	WESLEY E. CILLEY.
Manufactures	JOHN H. DALY.
Population	EDWARD B. WHITE.
	EDWARD W. KOCH.
	WILLIAM B. CRAGG.
Revision and results	HARRY H. PIERCE.
Statistics of cities	LEMUEL A. CARRUTHERS.
Vital statistics	JOHN B. MITCHELL.
Chief, mechanical laboratory	E. M. LABOITHEAUX.

CLERICAL FORCE.

Statistical experts, \$2,000	5	Clerks—Continued.	
Stenographers:			119
\$1,800	1	\$1,260	64
\$1,500	1	\$1,200	83
Clerks:		\$1,140	30
\$1,800	24	\$1,080	49
\$1,680	10	\$1,020	27
\$1,600	15	\$1,000	57
\$1,560	42	\$960	10
\$1,440	17	\$900	89
\$1,400	58		
\$1,380	10	Total	717

SUBCLERICAL FORCE.

Photostat operators, \$1,200-----	2	Unskilled laborers, \$720-----	12
Skilled laborers:		Messengers, \$840-----	2
\$1,000-----	2	Assistant messengers, \$720-----	5
\$900-----	3	Messenger boys, \$480-----	10
\$840-----	2		
\$720-----	1	Total-----	39

MECHANICAL LABORATORY.

Experts:		Mechanical draftsman, \$1,600-----	1
\$2,200-----	1	Toolmakers:	
\$2,000-----	2	\$1,600-----	1
\$1,800-----	1	\$1,400-----	1
Mechanicians:		Pressman and machinist, \$1,400-----	1
\$1,800-----	1	General mechanic, \$1,200-----	1
\$1,600-----	1	Machinist's helper, \$1,000-----	1
Tabulating mechanicians:		Shop apprentices:	
\$1,600-----	3	\$840-----	1
\$1,400-----	3	\$720-----	3
\$1,200-----	1	\$600-----	3
Electricians:			
\$1,600-----	1	Total-----	30
\$1,400-----	2		
\$1,200-----	1		

SPECIAL-AGENT FORCE.

Special agents for general field work, etc-----	42
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SUMMARY.

Officials-----	23	Mechanical laboratory force-----	30
Clerical force-----	717	Special agents-----	42
Subclerical force-----	39	Total-----	851

In addition, there are employed throughout the cotton belt 694 local special agents to collect statistics of cotton and cotton seed. These agents perform their work only at intervals and are paid on a piece-price basis.

COOPERATION WITH OTHER FEDERAL SERVICES AND WITH OUTSIDE AGENCIES.

In making its plans for the present census the Bureau has aimed, as in the past, to eliminate duplication of work done by other Government services and to make its published statistics as valuable as possible to the various organizations and interests, both governmental and nongovernmental, which have use for them. To these ends it has sought, and has received in greater measure than ever before, the full and hearty cooperation of other Federal bureaus and offices and of outside agencies to whose activities the census statistics pertain.

In the course of the preparation of the agricultural schedules many conferences were held with officials representing the Bureau of Crop Estimates, the Bureau of Markets, the Office of Farm Management, the Office of Farm Horticultural Investigations, and the Division of Animal Husbandry in the Department of Agriculture. These conferences were characterized by a spirit of complete harmony, and all important decisions were reached by unanimous agreement. Subsequent conferences were attended not only by representatives of the Department of Agriculture but also by professors in agricultural colleges, editors of agricultural newspapers, and representatives of other agricultural interests.

In connection with the preparation of the irrigation schedule a conference was held with representatives of the Departments of Agriculture and of the Interior; and the Office of Public Roads and Rural Engineering in the Department of Agriculture, cooperated by making a test of the tentative schedule in several of the Western States.

The drainage schedule was drawn up after conference with representatives of the Departments of Agriculture and of War, representatives from several State universities, and a small number of the leading engineers of the United States.

In the formulation of many of the schedules to be used in the manufactures inquiry, consultations have been held with representatives of various Federal services, including the Bureau of Standards, Tariff Commission, Bureau of Chemistry, Bureau of Mines, Geological Survey, Bureau of Markets, and Bureau of Internal Revenue, and with representatives of the statistical organizations of the various States. The cooperation of chambers of commerce, leading manufacturers, and trade associations has also been sought. With the view of securing this cooperation and of enlisting the interest of the manufacturers and trade associations, the Director of the Census and the chief statistician for manufactures conferred with members of the National Industrial Conference Board, of Boston, and the National Association of Manufacturers, of New York, on June 9 and 12, respectively; and as a result of these conferences the general manager of the National Association of Manufacturers called a meeting of representatives of the various industrial organizations for the purpose of considering the tentative schedules of manufactures. By this means first-hand knowledge has been obtained as to the nature of the statistical information needed by the various industries. The responses of the industrial organizations have been gratifying as indicating their interest and desire to cooperate.

At a conference held in the office of the Director of the Census and attended by the Director of the United States Geological Survey, the Director of the Bureau of Mines, and other representatives of those services, it was agreed that the census of mines and quarries should be conducted in cooperation with the Geological Survey and the Bureau of Mines; and a committee composed of one representative each from the Bureau of the Census and the other offices named was appointed to consider all details as to the practical working out of the cooperative arrangement.

In preparation for the census of forestry and forest products, arrangements were made with the Forest Service of the Department of Agriculture whereby the lists of sawmills and other establishments consuming lumber and timber products, on file in that office, were placed at the service of the Census Bureau. A list of producers of naval stores was obtained from the Bureau of Chemistry, Department of Agriculture. Consultations were held with representatives of the Forest Service and correspondence was carried on with leading lumber manufacturers and associations in regard to the form of the schedule to be used in securing the data.

The census of Alaska is to be taken in cooperation with the Bureau of Education of the Department of the Interior. Mr.

William T. Lopp, in charge of the Alaskan division of the Bureau of Education, will supervise the work. (See subsection headed "Outlying possessions.")

The censuses of Guam, Samoa, and the Panama Canal Zone will be taken under plans agreed upon by representatives of the Bureau of the Census and of the War and Navy Departments. (See subsection headed "Outlying possessions.")

Arrangements have been made with the Treasury Department to provide offices in Federal buildings for supervisors of census wherever it is practicable to do so. (See subsection entitled "Field force.")

PREPARATION OF SCHEDULES, INSTRUCTIONS, LISTS, ETC.¹

A tentative general population schedule was prepared and printed in March, 1919. A few slight revisions were made, and a small number of copies were printed July 9, 1919, in final form. The full edition (2,500,000 copies) has been printed and is now being distributed to the supervisors and enumerators. This schedule is similar in general form to those used at the last two decennial censuses, the necessary changes in the inquiries being made to conform to the provisions of the Fourteenth Census act.

In connection with the preparation of the agricultural schedules, the officials of the division of agriculture held numerous conferences with persons designated to represent the various governmental departments which are interested in agricultural statistics, as well as with professors in agricultural colleges and representatives of agricultural periodicals and of farmers' associations. As a result of these conferences, a general farm schedule was formulated which has been very widely indorsed and has received the unqualified approval of the Joint Advisory Committee of the American Statistical and Economic Associations. This schedule, the schedule for live stock not on farms and ranges, the schedule for drainage, and the schedule for irrigation have all been printed.

Summaries of the reports of the census supervisors for 1910 as to the methods pursued in the conduct of the field work have been made as a guide to the work of the Fourteenth Census. These summaries cover the methods employed in the division of each district into enumeration districts; the selection and instruction of enumerators and the supervision of their work; the use of advance schedules for population and agriculture; rates of pay of enumerators; and methods employed by newspapers, private organizations, etc.

The general instructions to supervisors have been printed, and the instructions to enumerators, as well as other forms, are in process of preparation.

The compilation of the occupation index to be used at the Fourteenth Census has been nearly completed. More than 100,000 slips have been prepared covering occupational designations not contained in the index used at the Thirteenth Census, and these slips have been arranged according to occupation symbols and are being considered in reference to their numerical importance with the view of their use in the new index for the Fourteenth Census. This index,

¹ See also preceding subsection.

alphabetically arranged, to be used by the classifying clerks, will comprehend practically 20,000 occupational designations and will fill 400 printed pages.

A card index giving names, addresses, and character of products for establishments to be covered by the censuses of manufactures, mines and quarries, and forestry and forest products has been prepared from schedules of the 1914 census of manufactures, business trade directories, and lists on file in other bureaus and offices of the Government.

The preparation of a complete list of factories for which reports will be made from central offices is now in progress. This list will be perfected by correspondence with each company that made a report of this character at the last census, as well as with others that will be listed in the new card index as having come into existence at later dates.

The Bureau has prepared a list of the forms to be used in the enumeration, showing size of edition, dates when copy will be supplied, and when deliveries must be made.

ENCUMBRANCES ON HOMES.

Section 8 of the Fourteenth Census act contains a provision, inserted in the Senate, for ascertaining the amount of encumbrance on mortgaged homes. This refers only to mortgaged homes occupied by their owners, of which in 1920 there may be approximately 4,000,000. This number includes 1,500,000 mortgaged farm homes, for which provision for securing this information has been made on the regular farm schedule, and 2,500,000 mortgaged homes in city districts, for which the necessary information can not be secured on the general population schedule and for which, therefore, a special schedule will be required.

The number of owned encumbered homes will be determined through inquiries on the general population schedule by the enumerators in January, 1920, but the information as to the amount of encumbrance will be later secured from the owners of the encumbered homes by the use of a special schedule, this supplemental inquiry to be conducted partly by correspondence and partly by the use of special agents.

The Fourteenth Census act as originally drawn did not provide for an inquiry as to encumbrances on homes occupied by owners, for which reason the estimate of the total cost of the Fourteenth Census work did not cover the cost of this inquiry. In order, therefore, to comply properly with this special provision of the census act, an appropriation of at least \$1,000,000 will be required to cover the additional cost of collecting and compiling this information.

An investigation regarding the encumbrance on homes was first made at the census of 1890, for which an appropriation of \$1,000,000 was made in addition to the regular census appropriations.

OUTLYING POSSESSIONS.

The Fourteenth Census act provides for censuses of Alaska, Hawaii, and Porto Rico, to be taken by the Bureau of the Census, and also for censuses of Guam, Samoa, and the Panama Canal Zone, to be taken by the respective governors of those possessions in accordance with plans prescribed or approved by the Director of the Census.

Alaska.—In taking the census of Alaska the Bureau of the Census will cooperate with the Bureau of Education. The plan of cooperation, which received the approval of the Secretary of Commerce June 3, 1919, and of the Secretary of the Interior on June 14, 1919, provides for the employment (1) of Mr. William T. Lopp, in charge of the Alaskan Division of the Bureau of Education, with headquarters at Seattle, Wash., as chief special agent in charge of the Alaskan census; (2) of the six district superintendents of schools in Alaska as special agents in charge of the enumeration work in their respective school districts; (3) of local teachers as enumerators wherever practicable; and (4) of the Bureau of Education bookkeeper in Seattle as special disbursing agent for the census and of his clerk as special agent for clerical service in connection with the census. The schedules, blanks, and other supplies were shipped to Mr. Lopp at Seattle on July 17, ready for transportation to his census headquarters at Juneau.

Hawaii and Porto Rico.—Supervisors have been appointed for Hawaii and Porto Rico, and the schedules and blanks, which will be substantially the same as those used for continental United States, are being printed.

Other outlying possessions.—Plans for the censuses of Guam, Samoa, and the Panama Canal Zone have been perfected in conference with officials of the War and Navy Departments. The census in each instance will be taken under the immediate direction of the governor, who will be supplied with schedules and other blank forms from this Bureau. The schedules will be less elaborate than those used in Continental United States.

Arrangements have also been made, through the Chief of the Bureau of Insular Affairs, War Department, for securing the detailed results of the census of the Philippine Islands, taken by the Philippine Government as of December 31, 1918, as fast as they are available, for incorporation in the announcements and reports of the Fourteenth Census of the United States.

MILITARY AND NAVAL POPULATION.

Steps are being taken toward providing, through the War and Navy Departments, for the proper enumeration of all persons in the military and naval services, and of all civilians engaged in or identified with war work, who are likely to be absent from their usual places of residence at the time the census is taken in January, 1920.

MISCELLANEOUS PREPARATORY WORK.

An irrigation expert and a drainage expert have been appointed to take charge of the irrigation and drainage inquiries, under the direct supervision of the chief statistician for agriculture, and the necessary preparatory work for these inquiries is under way.

The Bureau is now in correspondence with chambers of commerce and other industrial organizations with the view of extending the territory to be comprised in the "metropolitan districts," or industrial zones, and increasing the number of such districts.

Consideration has been given to the requirements of the card-punching work, including the preparation of a punch card, and arrangements are being made with the Government Printing Office for securing an adequate supply of satisfactory paper for punch cards.

Certain experimental tabulations and studies have been made with the view of a better presentation of the statistics in reports and bulletins.

A brief report on the methods of taking censuses in foreign countries has been prepared.

MECHANICAL EQUIPMENT.

Work in mechanical laboratory.—The object of the mechanical laboratory, to have produced or to have on hand at the close of the fiscal year 1919 all parts entering into the construction of certain tabulating machinery for the work of the Fourteenth Census, comprising 40 automatic tabulator heads, 35 bases with full complements of counters, and 25 sorting machines, has been practically attained.

It was considered advisable to build larger numbers of machines and accessories than were called for in the original estimates. The numbers of the several machines and parts finally determined upon, the numbers originally estimated, and the percentages of increase are as follows:

Item.	Number determined upon.	Number originally estimated.	Per cent of increase.
Automatic tabulator heads.....	40	25	60.0
Automatic tabulator bases.....	35	30	16.7
Sorting machines.....	25	19	31.6
Counter units.....	156	114	36.8

Each tabulating machine will be equipped with from one to six counter units, each of which will have sufficient capacity to record 10 numbers of four figures each.

More work of an assembling nature was carried on during the latter part of the fiscal year than was thought possible in the beginning. For the permanent use of the division of vital statistics 4 tabulators and 3 sorting machines have been completed and installed and 77 pantograph punching machines have been overhauled and equipped with composite key plates in conformity with the latest forms of the mortality and birth cards. In all, five tabulators have been completed and tested, of which the four just referred to are in

actual use. The remainder of the equipment of tabulating and sorting machines intended for population work will be completed on or before February 1, 1920, in ample time to have them in readiness for the Fourteenth Census work.

Of the total numbers of machines determined upon, there had been completed and tested up to September 15, 1919:

Tabulating machines.....	14.2 per cent.
Sorting machines.....	12.0 per cent.

The estimated percentages of work accomplished on the remaining machines to September 15, 1919, were:

Automatic tabulator heads.....	95 per cent.
Automatic tabulator bases.....	87 per cent.
Sorting machines.....	82 per cent.

The original estimates pertaining to the sorting machines took into consideration merely the work of overhauling. It was later found expedient to introduce some radical changes in design and method of operation, and the result has been the production of a practically new and much more efficient machine.

Supplies and maintenance, as needed, have been furnished the Bureau of Immigration for its tabulating machinery.

Integrating counter.—In my last two reports I have referred to the progress of the development of an "integrating counter"—that is, a counter which will record and add numbers instead of mere units, thus performing automatically the work done by the operator of an adding machine—for use in tabulating certain classes of census data, such as those pertaining to agriculture and manufactures. The numbers will be indicated on cards by punch marks, the cards will be fed into the machine, and the numbers will be automatically totaled. Several sets of figures can be totaled at the same time. The principal advantage to be derived from the use of the integrating counter lies in the facility with which the data, as indicated on the cards by the punch marks, may be regrouped or rearranged so as to obtain totals for the various classifications desired.

Work on the integrating counter, which began on July 6, 1917, was continued during the fiscal years 1918 and 1919, and is still in progress. The first model has been completed as an experimental machine, and it has automatically added and recorded numbers as indicated on punched cards at the rate of 20,000 to 25,000 cards a day. The machine is small and compact and does not depend upon electricity for its operation, except that it is motor driven. It may be operated wherever a connection can be made to an electric-lamp socket or outlet carrying a 110-volt direct current. A complete set of drawings and all patterns necessary for manufacturing this type of machine have been made.

A tentative card system for tabulating part of the manufactures census has been developed and will be given a test.

OFFICE ROOM AND STORAGE SPACE.

The Bureau of the Census will employ during the Fourteenth Census period (July 1, 1919, to June 30, 1922), a greatly increased clerical force in Washington, numbering at its maximum about 4,000. Moreover, it will need floor space for the many machines that

will be used in tabulating the results of the census and storage space for the millions of schedules containing the data gathered by the field force and the 300,000,000 or more cards which will be used in tabulating the population and agricultural statistics. It thus became necessary to seek additional quarters. Accordingly, arrangements were made with the War Department and Public Buildings Commission for the use of Building D (one of the temporary buildings erected during the period of the war), at Four-and-a-half Street and Missouri Avenue NW., by the Census Bureau during the Fourteenth Census period. This is a three-story frame structure with eight wings and a head house on each floor, and, exclusive of corridors, aisles, toilets, etc., contains 237,000 square feet of floor space.

A number of alterations and repairs and some new construction are necessary in order to render this building suitable for the use of the Bureau. These changes consist mainly in shoring up the floors of four wings, the construction of bridges between certain wings, the installation of three freight elevators, and the construction of a fireproof vault in which to keep the population schedules of the Fourteenth Census. It had been the desire of the Bureau to begin this work early in the spring of 1919, and accordingly an item was incorporated in the third deficiency bill, reported in the House of Representatives on February 27, 1919, to make immediately available \$200,000 of the Fourteenth Census appropriation to cover the cost of the alterations, etc., in question; but the bill failed to pass, and as a result the Bureau was delayed in beginning the work. It is now under way, however, and will be pushed to completion as rapidly as possible.

On July 1 one-half of building D was made available for the use of the Census Bureau, the other half being retained by the Air Service; and on July 1 and 2 the divisions of population and agriculture, and on August 12 the geographer's division, were removed to that building. As the work of the division of manufactures, which is housed in the Commerce Building, expands, it will be necessary to transfer other divisions to Building D. This will require the use of the entire building, which is to be turned over to the Bureau by January 1, 1920.

This arrangement is the best that could be made under the existing circumstances, but I regard it as very unfortunate that the important records of a decennial census must be constantly exposed to destruction by fire in a temporary frame structure. I sincerely hope that by the time the next census is taken the Government will have adopted a building policy which will permit the housing of the census force in a modern, fireproof building. Furthermore, the separation of the force is not conducive to good administration. Although the main work of the decennial census is not yet under way, much inconvenience and lost motion have already resulted from the lack of direct contact with each unit of the organization.

PUBLICATIONS ISSUED.

Following is a list of the publications issued during the fiscal year and since its close. In addition, the Bureau has published a number of press summaries.

JULY 1, 1918, TO JUNE 30, 1919.

Class and title.	Date issued.	Pages.	Edition.
Reports (cloth bound and of quarto size, except as otherwise indicated):			
Birth statistics for the registration area of the United States: 1916.	Nov. 6, 1918	96	5,000
Financial statistics of cities having a population of over 30,000: 1917.	Oct. 5, 1918	373	6,500
Financial statistics of States: 1917 (cloth and paper).	Oct. 10, 1918	129	3,500
Statistics of fire departments of cities having a population of over 30,000: 1917 (paper).			
Specified sources of municipal revenues: 1917.	Aug. 13, 1918	105	6,000
Deaf mutes in the United States: 1910.	Aug. 28, 1918	140	6,000
Census of manufactures, 1914—Vol. I, reports by States and principal cities ^a .	July 5, 1918	221	2,000
Mortality statistics: 1916.	Feb. 26, 1919	1,677	1,500
Marriage and divorce: 1916 (paper).	Sept. 27, 1918	543	5,000
Negro population in the United States: 1790-1915.	Apr. 4, 1919	47	5,000
Prisoners and juvenile delinquents.	Oct. 28, 1918	844	5,000
Census of the Virgin Islands of the United States: Nov. 1, 1917.	Oct. 28, 1918	535	4,000
	Aug. 27, 1918	147	4,000
Total.		4,857	53,500
Bulletins (quarto):			
No. 136—Stocks of leaf tobacco (octavo).	July 17, 1918	44	20,000
No. 137—Cotton production and distribution, season of 1917-18.	Jan. 1, 1919	135	37,500
No. 138—Estimates of population in the United States: 1910-17.	Jan. 21, 1919	57	3,000
Textiles—census of manufactures: 1914.	Sept. 30, 1918	165	500
Shipbuilding (including boat building): 1916 and 1914 ^b .	May 16, 1919	35	2,500
Total.		436	63,500
Miscellaneous publications:			
Annual report of the Director of the Census to the Secretary of Commerce, fiscal year 1918 (octavo).	Oct. 21, 1918	28	2,500
Census publications available for distribution by the Bureau of the Census, Apr. 1, 1919 (octavo).	Apr. 26, 1919	16	500
Manual of the international list of causes of death (third reprint revised) (octavo).	July 13, 1918	309	500
Advance tables of cotton production in the United States—crop of 1917 (octavo).	July 27, 1918	40	42,000
Advance tables of cotton production in the United States—crop of 1918 (octavo).	June 23, 1919	40	36,000
Act providing for the Fourteenth Census, to be taken Jan. 1, 1920.	Apr. 17, 1919	23	1,000
Supervisors' districts, 1920—Fourteenth Census.	May 8, 1919	75	1,500
	June 14, 1918		
Thirty-four reports, in card form, relating to cotton and cotton seed.	to June 19, 1919	34	1,360,000
	to July 29, 1918		
Four reports, in card form, relating to stocks of leaf tobacco.	to Apr. 30, 1919	4	77,000
Total.		569	1,521,000
Special censuses (octavo):			
Population of Okmulgee County, Okla. (enumerated Aug. 15, 1918).	Jan. 6, 1919	16	500
Population of Ottawa County, Okla. (enumerated Dec. 16, 1918).	Feb. 26, 1919	15	500
Population of Tulsa County, Okla. (enumerated Jan. 15, 1919).	Apr. 24, 1919	19	800
Total.		50	1,800
Census of war commodities (quarto):			
Antimony, and graphite crucibles.	Apr. 4, 1919	10	500
Iron and steel.	Jan. 31, 1919	16	1,500
Statistics of leather.	Dec. 12, 1918	11	1,000
Textile fibers—wool, silk, jute, and kapok.	Apr. 17, 1919	16	1,500
Total.		53	4,500
Grand total, July 1, 1918, to June 30, 1919.		5,965	1,644,300
JULY 1 TO AUG. 31, 1919.			
Reports (cloth bound and of quarto size, except as otherwise indicated):			
Census of manufactures, 1914—Vol. II, reports for selected industries and detailed statistics for industries by states ^a .	July 2, 1919	1,047	1,500
Telegraphs and municipal electric fire-alarm and police-patrol signaling systems: 1917 (paper).	July 19, 1919	61	3,000
Municipal markets in cities of over 30,000: 1918 (paper).	July 23, 1919	19	1,500
Total.		1,127	6,000
Census of war commodities (quarto): Leather statistics—Boots, shoes, and manufactured leather.	Aug. 25, 1919	19	1,500
Grand total, July 1 to Aug. 31, 1919.		1,146	7,500

^a The various reports bound together in these volumes had previously been published separately.^b Withheld from earlier publication for military reasons.

APPROPRIATIONS AND EXPENDITURES.

FINANCIAL STATEMENT, FISCAL YEAR 1919.

Division.	Salaries.	Subsistence and travel.	Other.	Total.
Administrative:				
Salaries.....	\$64,351.57	\$322.25	\$2.45	\$64,676.27
Contingent expenses.....			a 23,261.14	a 23,261.14
Mechanical laboratory.....	32,638.86		10,629.59	43,268.45
Revision and results.....	23,451.30			23,451.30
Population.....	115,694.00	857.73	1,745.06	117,296.82
Manufactures.....	244,519.13	29,492.55	195.14	274,206.82
Geographers.....	42,879.87		6.58	42,886.45
Vital statistics.....	160,399.99	4,273.29	73,631.90	238,305.18
Statistics of States and cities.....	79,708.69	28,456.34	109.16	108,274.19
Agriculture.....	30,319.50	57.00	103.33	30,479.83
Cotton and tobacco.....	40,461.05	136.92	230,277.20	270,875.17
Salaries of employees detailed to Department of Commerce.....	998.98			998.98
Printing and binding.....			a 113,971.18	a 113,971.18
War work:				
Registration.....	1,047.07			1,047.07
Liberty loans.....	2,775.86			2,775.86
Census of jute.....	1,632.92			1,632.92
Census of antimony.....	1,303.50			1,303.50
Census of leather stocks.....	35,858.72			35,858.72
Census of silk.....	987.14			987.14
Census of boots, shoes, and leather goods.....	52,454.77	120.61		52,605.38
Census of graphite crucibles.....	1,679.28			1,679.28
Census of woolen manufactures.....	3,001.01			3,001.01
Census of iron and steel.....	11,526.01			11,526.01
Data for foreign countries.....	4,069.87			4,069.87
Commercial greenhouses.....	7,407.17	48.00	3.85	7,459.02
Grain-trade investigation.....	32,472.66			32,472.66
Confidential work for Navy Department.....	1,112.50			1,112.50
Ages of registrants.....	2,139.99			2,139.99
Miscellaneous.....	27,669.96	107.05	18,443.95	46,220.96
Purchase and repair of punching machines.....			35,000.00	35,000.00
Total for Bureau.....	1,022,592.27	63,871.74	507,381.13	1,593,845.14

Title of appropriation.	Appropriation.	Expenditures during fiscal year.
Salaries, Bureau of the Census, 1919.....	\$739,240.00	\$682,161.95
Collecting statistics, Bureau of the Census, 1919.....	490,000.00	466,091.95
Tabulating machines, Bureau of the Census, 1919.....	60,000.00	40,933.44
Punching machines, Bureau of the Census, 1919.....	60,000.00	35,000.00
National Security and Defense, Department of Commerce (special statistical work), 1919.....	150,000.00	138,329.50
National Security and Defense, Department of Commerce (uniform nomenclature), 1919.....	10,000.00	9,895.56
Contingent expenses, Department of Commerce, 1919 a.....	23,261.14	23,261.14
Printing and binding, 1919 a.....	113,971.18	113,971.18
Increase of compensation, Department of Commerce, 1919.....	84,140.42	84,140.42
	1,730,612.74	1,593,845.14

a Paid from appropriation for Department of Commerce; no separate appropriation for the Bureau of the Census.

APPROPRIATION, FISCAL YEAR 1920.

The Census Bureau's appropriation for the fiscal year 1920 was made in a single lump sum of \$15,000,000. The Bureau's estimate of the cost of taking the Fourteenth Decennial Census was \$18,129,000, and the cost of the annual and other nondecennial work to be done during the three-year census period (July 1, 1919, to June 30, 1922) was estimated at \$2,371,000, making a total of \$20,500,000. It was impossible to apportion, with any approach to accuracy, the cost of the work among the three fiscal years which will constitute the census period. Obviously, however, the greater part of the total expense of the census will fall within the first fiscal year, during which the bulk of the payments for field work will be made.

ESTIMATED EXPENDITURES DURING FOURTEENTH CENSUS PERIOD.

After the estimate was prepared, provision for an additional inquiry, relating to encumbrances on homes, was inserted in the census bill by the Senate. The inclusion of this inquiry in the Fourteenth Census work (as explained in the section entitled "Preparations for the Fourteenth Census") will add approximately \$1,000,000 to its cost. An additional estimate of \$50,000 has been made necessary on account of the construction of a fireproof vault, the installation of elevators, the strengthening of floors, etc., at Building D, one of the temporary war buildings, at Four-and-a-half Street and Missouri Avenue NW., which has been assigned to this Bureau for the use of the Fourteenth Census force. On the other hand, the original estimate of \$300,000 for rent of buildings in the District of Columbia has been eliminated, in view of the assignment of the temporary war building to this Bureau. An item of \$35,000 for fuel has also been eliminated, as the cost of heating Building D will be paid by the office of the Superintendent of the State, War, and Navy Building. These changes are equivalent to a net increase of \$715,000, making the revised estimate of the cost of the Fourteenth Decennial Census inquiries amount to \$18,844,000. This represents an increase of 29 per cent over the corresponding amount expended to cover the cost of the Thirteenth (1910) Census inquiries, which exceeded by 23 per cent the cost of the Twelfth (1900) Census work. It should be borne in mind, however, that neither the Thirteenth nor the Twelfth Census contained the inquiry on encumbrances on homes, for which an estimate of \$1,000,000 is made for the Fourteenth Census.

The estimate for the Fourteenth Census, which was a very conservative one, was made in the expectation that prices and wages would have made some progress toward a return to a normal level before it became necessary to purchase supplies and engage enumerators and other field employees, but thus far that expectation has not been realized. With the prevailing wage scales and the high prices of equipment, supplies, etc., it is possible that the Bureau's estimate may prove to be too low.

The following statement shows in detail the estimated expenditures during the Fourteenth Census period:

DECENNIAL CENSUS INQUIRIES.

POPULATION:	
Field work (including outlying possessions)-----	\$750,000
Supervisors (salaries, expenses, and assistance)-----	3,600,000
Enumerators-----	50,000
Interpreters-----	100,000
Miscellaneous (reenumerations, etc.)-----	500,000
Collecting data on enumerated homes-----	
Total, field work-----	5,000,000
Office work, total salaries-----	2,900,000
Mechanical laboratory (salaries, supplies, etc.)-----	* 100,000
Total, Population-----	8,000,000
AGRICULTURE:	
Field work (including outlying possessions)-----	750,000
Supervisors (salaries, expenses, and assistance)-----	3,541,000
Enumerators-----	106,000
Irrigation (compensation, subsistence, travel, etc.—field employees)-----	170,000
Drainage (compensation, subsistence, travel, etc.—field employees)-----	42,000
Special field work-----	
Total, field work-----	4,609,000
Office work, total salaries-----	1,440,000
Total, Agriculture-----	6,049,000

* Exclusive of work on integrating counter.

MANUFACTURES AND MINES AND QUARRIES:

Field work, including outlying possessions (compensation, subsistence, travel, etc., of field employees)-----	\$1, 056, 000
Office work, total salaries-----	1, 192, 000
Total, Manufactures and Mines and Quarries-----	2, 248, 000

FORESTRY AND FOREST PRODUCTS:

Field work, including outlying possessions (compensation, subsistence, travel, etc., of field employees)-----	4, 000
Office work, total salaries-----	23, 000
Total, Forestry and Forest Products-----	27, 000

ADMINISTRATIVE AND GENERAL:

Salaries for Director's Office, Administrative Division, Appointment Division, Disbursing Office, Geographer's Division, Publication Division, and Editorial Division-----	975, 000
Printing (including cards for tabulating machines and other job work)-----	821, 000
Stationery, supplies, and equipment (other than for mechanical laboratory), office maintenance, etc.-----	724, 000

Total, Administrative and General----- 2, 520, 000

Grand total, decennial census inquiries----- 18, 844, 000

Grand total decennial census inquiries, Thirteenth Census (1910), including work done after close of census period-----	\$14, 570, 946
Grand total Twelfth Census (1900)-----	\$11, 854, 818
Per cent of increase, 1910-1920-----	29
Per cent of increase, 1900-1910-----	23

OTHER WORK DURING DECENNIAL CENSUS PERIOD.**OFFICIAL REGISTER FOR 1919 AND 1921:**

Office work, total salaries-----	\$12, 000
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VITAL STATISTICS (annual):

Field work (transcripts of records and subsistence and travel)-----	340, 000
Office work, total salaries-----	410, 000
Total, Vital Statistics-----	750, 000

STATISTICS OF STATES AND CITIES (annual):

Field work (compensation, travel, subsistence, etc., of field employees)-----	210, 000
Office work, total salaries-----	150, 000
Total, Statistics of States and Cities-----	360, 000

COTTON AND COTTONSEED STATISTICS (monthly and semimonthly):

Field work (pay of local agents on piece-price basis)-----	825, 000
Office work, total salaries-----	90, 000
Total, Cotton and Cottonseed Statistics-----	915, 000

TOBACCO STATISTICS (quarterly):

Field work (compensation, subsistence, travel, etc., of field employees)-----	45, 000
Office work, total salaries-----	30, 000
Total, Tobacco Statistics-----	75, 000

GENERAL:

Printing-----	182, 000
Stationery, supplies, and equipment-----	12, 000
Total, General-----	194, 000

INTEGRATING COUNTER:

Work of development, construction, and maintenance (salaries, supplies, etc.)-----	65, 000
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Grand total, other work during decennial census period----- \$2, 371, 000

Aggregate, all work done during decennial census period----- \$21, 215, 000

Respectfully,

SAM. L. ROGERS,
Director of the Census.

To Hon. WILLIAM C. REDFIELD,
Secretary of Commerce.

ANNUAL REPORT

OF THE

791

DIRECTOR OF THE CENSUS

TO THE

SECRETARY OF COMMERCE

FOR THE

FISCAL YEAR ENDED JUNE 30, 1920



WASHINGTON
GOVERNMENT PRINTING OFFICE
1920

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